

# **Oracle® Database**

Sample Schemas

12c Release 2 (12.2)

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This manual describes the sample database schemas available with Oracle Database and used in some Oracle documentation and curriculum examples.

Oracle Database Sample Schemas, 12c Release 2 (12.2)

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# Preface

This guide is a primary source of information about the sample database schemas that are used for examples in Oracle Database documentation.

This preface contains the following topics:

- [Audience](#) (page vii)
- [Related Documents](#) (page vii)
- [Conventions](#) (page vii)

## Audience

This document is intended for all users of the seed database, which is installed when you install Oracle Database.

## Documentation Accessibility

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## Related Documents

This guide does not discuss specific programming examples that use data in the sample schemas; see the Oracle Database documentation library for specific books that discuss the technology that you are using.

Sample database schema **OE** contains tables that use SQL data type **XMLType**. For information about the use of such data, see *Oracle XML DB Developer's Guide*.

## Conventions

The following text conventions are used in this document:

| Convention      | Meaning                                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>boldface</b> | Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.         |
| <i>italic</i>   | Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.                          |
| monospace       | Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter. |



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# Introduction to Sample Schemas

For many years, Oracle used the simple database schema SCOTT, with its two prominent tables EMP and DEPT, for various examples in documentation and training. These tables are inadequate to show the basic features of Oracle Database and other Oracle products. The sample database schemas can be used for product documentation, courseware, software development, and application demos.

## 1.1 About the Sample Schemas

The sample database schemas provide a common platform for examples in each release of the Oracle Database. The sample schemas are a set of interlinked database schemas. This set provides approach to complexity:

- Schema Human Resources (HR) is useful for introducing basic topics. An extension to this schema supports Oracle Internet Directory demos.
- Schema Order Entry (OE) is useful for dealing with matters of intermediate complexity. Many data types are available in this schema, including nonscalar data types.
- Schema Online Catalog (OC) is a collection of object-relational database objects built inside schema OE.
- Schema Product Media (PM) is dedicated to multimedia data types.
- A set of schemas gathered under the main schema name Information Exchange (IX) can be used to demonstrate Oracle Advanced Queuing capabilities.
- Schema Sales History (SH) is designed to allow for demos with large amounts of data. An extension to this schema provides support for advanced analytic processing.

## 1.2 Design Principles for Sample Schemas

The sample database schemas have been created with the following design principles in mind:

- **Simplicity and ease of use.** Schemas HR and OE are intentionally simple. They provide a graduated path from simple to intermediate levels of database use.
- **Relevance for typical users.** The base schemas and their extensions bring to the foreground the functionality that customers typically use. Only the most commonly used database objects are built automatically in the schemas. The entire set of schemas provides a foundation upon which one can expand to illustrate additional functionality.

- **Extensibility.** The sample schemas provide a logical and physical foundation for adding objects to demonstrate functionality beyond the fundamental scope.
- **Relevance.** The sample schemas are designed to be applicable to e-business and other significant industry trends (for example, XML). When this goal conflicts with the goal of simplicity, schema extensions are used to showcase the trends in focus.

## 1.3 Customer Benefits of Sample Schemas

Benefits provided by the sample schemas include the following:

- **Continuity of context.** When encountering the same set of tables everywhere, users, students, and developers can spend less time becoming familiar with the schema and more time understanding or explaining the technical concepts.
- **Usability.** Customers can use these schemas in the seed database to run examples that are shown in Oracle Database documentation and training materials. This first-hand access to examples facilitates both conceptual understanding and application development.
- **Quality.** Through central maintenance and testing of both the creation scripts that build the sample schemas and the examples that run against the schemas, the quality of Oracle Database documentation and training materials is enhanced.

## 1.4 Overview of the Sample Schemas

The Oracle Database sample schemas are based on a fictitious sample company that sells goods through various channels. The company operates worldwide to fill orders for products. It has several divisions, each of which is represented by a sample database schema.

- [Schema HR](#) (page 1-2) – Division Human Resources tracks information about the company employees and facilities.
- [Schema OE](#) (page 1-3) – Division Order Entry tracks product inventories and sales of company products through various channels.
- [Schema PM](#) (page 1-4) – Division Product Media maintains descriptions and detailed information about each product sold by the company.
- [Schema IX](#) (page 1-4) – Division Information Exchange manages shipping through B2B applications.
- [Schema SH](#) (page 1-4) – Division Sales tracks business statistics to facilitate business decisions.

### 1.4.1 HR Sample Schema

In the Human Resource (HR) records, each employee has an identification number, e-mail address, job identification code, salary, and manager. Some employees earn commissions in addition to their salary.

The company also tracks information about jobs within the organization. Each job has an identification code, job title, and a minimum and maximum salary range for the job. Some employees have been with the company for a long time and have held different positions within the company. When an employee resigns, the duration the employee was working, the job identification number, and the department are recorded.

The sample company is regionally diverse, so it tracks the locations of its warehouses and departments. Each employee is assigned to a department, and each department is identified either by a unique department number or a short name. Each department is associated with one location, and each location has a full address that includes the street name, postal code, city, state or province, and the country code.

In places where the departments and warehouses are located, the company records details such as the country name, currency symbol, currency name, and the region where the country is located geographically.

### 1.4.2 OE Sample Schema

The company sells several products, such as computer hardware and software, music, clothing, and tools. The company maintains information about these products, such as product identification numbers, the category into which the product falls, order entry (OE), the weight group (for shipping purposes), the warranty period if applicable, the supplier, the availability status of the product, a list price, a minimum price at which a product will be sold, and a URL address for manufacturer information. Inventory information is also recorded for all products, including the warehouse where the product is available and the quantity on hand. Because products are sold worldwide, the company maintains the names of the products and their descriptions in several languages.

The company maintains warehouses in several locations to fulfill customer needs. Each warehouse has a warehouse identification number, name, facility description, and location identification number.

Customer information is also tracked. Each customer has an identification number. Customer records include customer name, street name, city or province, country, phone numbers (up to five phone numbers for each customer), and postal code. Some customers place orders through the Internet, so e-mail addresses are also recorded. Because of language differences among customers, the company records the native language and territory of each customer.

The company places a credit limit on its customers, to limit the amount of products they can purchase at one time. Some customers have an account manager, and this information is also recorded.

When a customer places an order, the company tracks the date of the order, how the order was placed, the current status of the order, shipping mode, total amount of the order, and the sales representative who helped place the order. The sales representative may or may not be the same person as the account manager for a customer. If an order is placed over the Internet, no sales representative is recorded. In addition to order information, the company also tracks the number of items ordered, the unit price, and the products ordered.

Schema OE also contains XML purchase-order documents. These are stored in Oracle XML DB Repository after validation against the registered XML schema `purchaseorder.xsd`. You can access these documents in various ways, such as by querying table `purchaseorder` using SQL, querying public views `RESOURCE_VIEW` and `PATH_VIEW`, and querying the repository using XPath expressions.

The purchase-order XML documents are located in Oracle XML DB Repository folder `$ORACLE_HOME/rdbms/demo/order_entry/2002/month`, where *month* is a three-letter month abbreviation (for example, Jan, Feb, Mar).

### 1.4.3 OC Sample Schema

The Online Catalog (OC) subschema of database schema OE addresses an online catalog merchandising scenario. The same customers and products are used in OC as in schema OE proper, but subschema OC organizes the products into a hierarchy of parent categories and subcategories. This hierarchy corresponds to the arrangement on an e-commerce portal site, where users navigate to specific products by drilling down through increasingly specialized categories of products.

### 1.4.4 PM Sample Schema

The company stores multimedia and print information about its products in a database. The Product Media (PM) schema is used to store such information. Examples of such information are:

- Promotional audio and video clips
- Product images and thumbnails for Web publishing
- Press release texts
- Print media advertisements
- Other promotional texts and translations

### 1.4.5 IX Sample Schema

The company has decided to test the use of messaging to manage its proposed B2B applications. The plan calls for a small test that will allow a user from outside the firewall to place an order and track its status. The order must be booked into the main system. Then, depending on the location of the customer, the order is routed to the nearest region for shipping. The Information Exchange (IX) schema stores such information.

Eventually, the company intends to expand beyond its current in-house distribution system to a system that will allow other businesses to provide the shipping. The messages sent must be in a self-contained format. XML is the perfect format for sending messages, and both Advanced Queuing Servlet and Oracle Internet Directory provide the required routing between the queues.

After the orders are either shipped or back ordered, a message must be sent back to the employee concerned to inform about the status of the order and to initiate the billing. It is important that the message be delivered only once and that there be a system for tracking and reviewing messages to facilitate resolution of any discrepancies with the order.

For the purpose of this test application, the company uses a database server and an application server. The application provides a mechanism for examining the XML messages as well as monitoring the queues. To demonstrate connectivity from outside the firewall, both the generation of a new order and customer service reporting are performed using queues. The new order application directly enables a queue, while the customer service queries require XML messaging to disable a queue.

### 1.4.6 SH Sample Schema

The sample company does a high volume of business, so it runs business statistics reports to aid in decision making. Many of these reports are time-based and

nonvolatile. That is, they analyze past data trends. The company loads data into its data warehouse regularly to gather statistics for these reports. These reports include annual, quarterly, monthly, and weekly sales figures by product. These reports are stored with the help of schema Sales History (SH).

The company also runs reports on distribution channels through which its sales are delivered. When the company runs special promotions on its products, it analyzes the impact of the promotions on sales. It also analyzes sales by geographical area.



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## Installing Sample Schemas

Starting with Oracle Database 12c Release 2, the latest version of the sample schema scripts are available on GitHub at <https://github.com/oracle/db-sample-schemas/releases/latest>.

During a complete installation of Oracle Database, the HR schema can be installed either manually or automatically when creating a database using the dbca option. All the other sample schemas must be installed manually via the scripts available on GitHub.

This chapter contains the following topics:

- [Installing HR Schema Only](#) (page 2-1)
- [Installing Sample Schemas from GitHub](#) (page 2-3)

---

**Note:**

By installing any of the Oracle Database sample schemas, you will drop any previously installed schemas that use the following user names: HR, OE, PM, SH, IX, BI.

Data contained in any of these schemas will be lost if you run any of the installation scripts described in this section. You should not use the sample schemas for your personal or business data and applications. They are meant to be used for demonstration purposes only.

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### 2.1 Installing HR Schema Only

This section contains the following topics:

- [Installing HR Schema Using Database Configuration Assistant](#) (page 2-1)
- [Manually Installing the HR Schema](#) (page 2-2)
- [Uninstalling HR Schema](#) (page 2-3)

#### 2.1.1 Installing HR Schema Using Database Configuration Assistant

Select the `sample schemas` option to install HR schema in the database.

At the end of the installation process, a dialog box displays the accounts that have been created and their lock status. By default, sample schemas are locked and their passwords are expired. Before you can use a locked account, you must unlock it and reset its password. You can unlock the accounts at this point in the installation process. Alternatively, after the installation completes, you can unlock the schemas

and reset their passwords by using the ALTER USER . . . ACCOUNT UNLOCK statement. For example:

```
ALTER USER hr ACCOUNT UNLOCK IDENTIFIED BY Password;
```

---

**See Also:**

"Guidelines for Securing Passwords" in *Oracle Database Security Guide* for guidelines related to creating secure passwords

---

## 2.1.2 Manually Installing the HR Schema

All scripts necessary to create the Human Resource (HR) schema reside in `$ORACLE_HOME/demo/schema/human_resources`.

You need to call only one script, `hr_main.sql`, to create all the objects and load the data. The following steps provide a summary of the installation process:

1. Log on to SQL\*Plus as SYS and connect using the AS SYSDBA privilege.  

```
sqlplus connect sys as sysdba  
Enter password: password
```
2. To run the `hr_main.sql` script, use the following command:  

```
SQL> @?/demo/schema/human_resources/hr_main.sql
```
3. Enter a secure password for HR  
specify password for HR as parameter 1:  
Enter value for 1:  
  
Enter an appropriate tablespace, for example, `users` as the default tablespace for HR  
  
specify default tablespace for HR as parameter 2:  
Enter value for 2:
4. Enter `temp` as the temporary tablespace for HR  
specify temporary tablespace for HR as parameter 3:  
Enter value for 3:
5. Enter your SYS password  
specify password for SYS as parameter 4:  
Enter value for 4:
6. Enter the directory path, for example, `$ORACLE_HOME/demo/schema/log/`, for your log directory  
specify log path as parameter 5:  
Enter value for 5:

After script `hr_main.sql` runs successfully and schema HR is installed, you are connected as user HR. To verify that the schema was created, use the following command:

```
SQL> SELECT table_name FROM user_tables;
```

Running `hr_main.sql` accomplishes the following tasks:



1. Removes any previously installed HR schema
2. Creates user HR and grants the necessary privileges
3. Connects as HR
4. Calls the scripts that create and populate the schema objects

For a complete listing of the scripts and their functions, refer to [HR Sample Schema Scripts and Objects](#) (page 4-4).

A pair of optional scripts, `hr_dn_c.sql` and `hr_dn_d.sql`, is provided as a schema extension. To prepare schema HR for use with the directory capabilities of Oracle Internet Directory, run the `hr_dn_c.sql` script. If you want to return to the initial setup of schema HR, use script `hr_dn_d.sql` to undo the effects of script `hr_dn_c.sql`.

You can use script `hr_drop.sql` to drop schema HR.

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**See Also:**

*Oracle Database Security Guide* for the minimum password requirements

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### 2.1.3 Uninstalling HR Schema

If you need to remove the HR schema, run the following script on the SQL\* Plus command line.

```
sqlplus system/systempw@connect_string
@drop_hr.sql
```

## 2.2 Installing Sample Schemas from GitHub

Starting with Oracle Database 12c Release 2, only the HR sample schema SQL scripts are available in the `$ORACLE_HOME/demo/schema/human_resources` directory. If you want to use sample schemas other than HR, such as OE, OC, PM, and SH schemas, you must download them from the GitHub repository.

The procedure to install sample schemas from GitHub is as follows:

1. To find the latest version of the sample schemas installation scripts, go to the following GitHub web site : <https://github.com/oracle/db-sample-schemas/releases/latest>

For example, If you want a 12.2.0.1 version of the scripts, then go to <https://github.com/oracle/db-sample-schemas/releases/tag/v12.2.0.1>

2. Clone the GitHub repository, or download the ZIP bundle from GitHub and extract the files.
3. Unzip the file.
4. Follow the instructions to create the schemas in the README contained in the zip file.

This section includes the following topics:

- [Resetting Sample Schemas](#) (page 2-4)

- [Uninstalling Sample Schemas](#) (page 2-4)

## 2.2.1 Resetting Sample Schemas

To reset sample schemas to their initial state, use the following syntax from the SQL\*Plus command-line interface:

```
sqlplus system/systempw@connect_string
@mksample systempw syspw hrpw oepw pmpw ixpw shpw bipw users temp /your/path/to/log/
connect_string
```

The `mksample` script expects 11 parameters. Provide the password for `SYSTEM` and `SYS`, and for schemas `HR`, `OE`, `PM`, `IX`, and `SH`. Specify a temporary and a default tablespace, and make sure to end the name of the log file directory with a trailing slash.

The `mksample` script produces several log files:

- `mkverify.log` is the Sample Schema creation log file.
- `hr_main.log` is the HR schema creation log file.
- `oe_oc_main.log` is the OE schema creation log file.
- `pm_main.log` is the PM schema creation log file.
- `pm_p_lob.log` is the SQL\*Loader log file for `PM.PRINT_MEDIA`.
- `ix_main.log` is the IX schema creation log file.
- `sh_main.log` is the SH schema creation log file.
- `cust.log` is the SQL\*Loader log file for `SH.CUSTOMERS`.
- `prod.log` is the SQL\*Loader log file for `SH.PRODUCTS`.
- `promo.log` is the SQL\*Loader log file for `SH.PROMOTIONS`.
- `sales.log` is the SQL\*Loader log file for `SH.SALES`.
- `sales_ext.log` is the external table log file for `SH.COSTS`.

In most situations, there is no difference between installing a Sample Schema for the first time or reinstalling it over a previously installed version. The `*_main.sql` scripts drop the schema users and all of their objects.

## 2.2.2 Uninstalling Sample Schemas

If you need to remove the sample schemas from the installation, run script `drop_sch.sql` on the SQL\*Plus command line. This script ships with Oracle Database.

This script uses the following parameters:

- `systempwd`
- `SYSTEM`
- `connect_string`

The `systempwd` is the password for `SYSTEM` user and `connect_string` is the connection string of the database.

**Example 2-1   How to Uninstall Sample Schemas**

```
sqlplus system/systempw@connect_string  
@drop_sch.sql
```



---

## Schema Diagrams

Examine the diagrams of the sample database schemas.

### 3.1 Sample Schema Diagrams

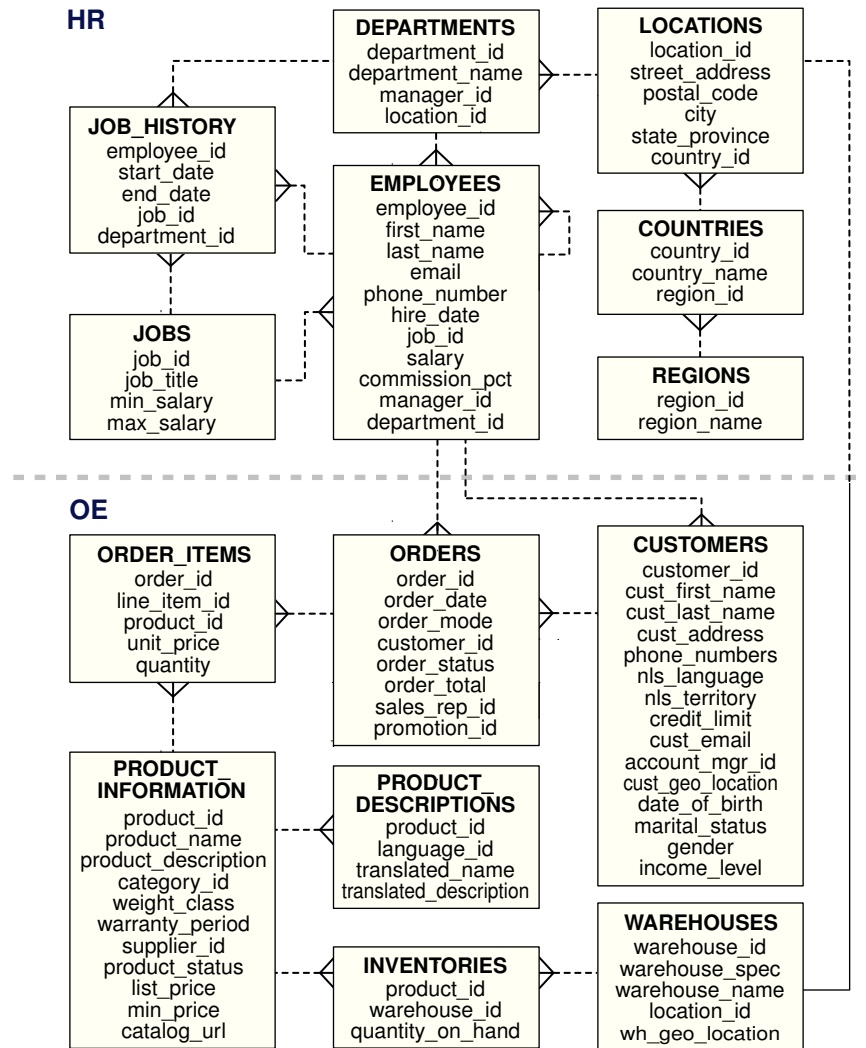
[Figure 3-1](#) (page 3-2) illustrates sample schemas HR and OE and their relationship. The scripts and table descriptions for these schemas are in section "[HR Schema](#) (page 4-4)" and "[OE Schema](#) (page 4-7)", respectively.

[Figure 3-2](#) (page 3-3) illustrates schema PM. The scripts and table description for schema PM are at "[PM Schema](#) (page 4-13)".

[Figure 3-3](#) (page 3-4) illustrates schema SH. The scripts and table description for schema SH are in section "[SH Schema](#) (page 4-18)".

This edition of the book does not illustrate schema IX, but its scripts and table description are in section "[IX Schema](#) (page 4-14)".

Figure 3-1 Sample Schemas HR and OE



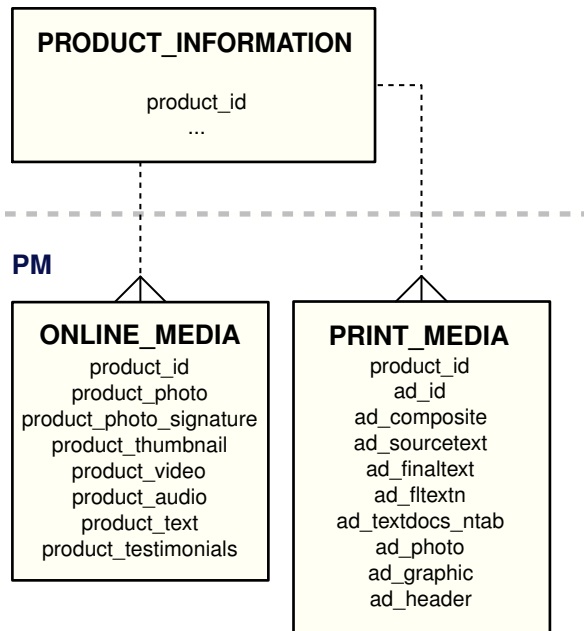
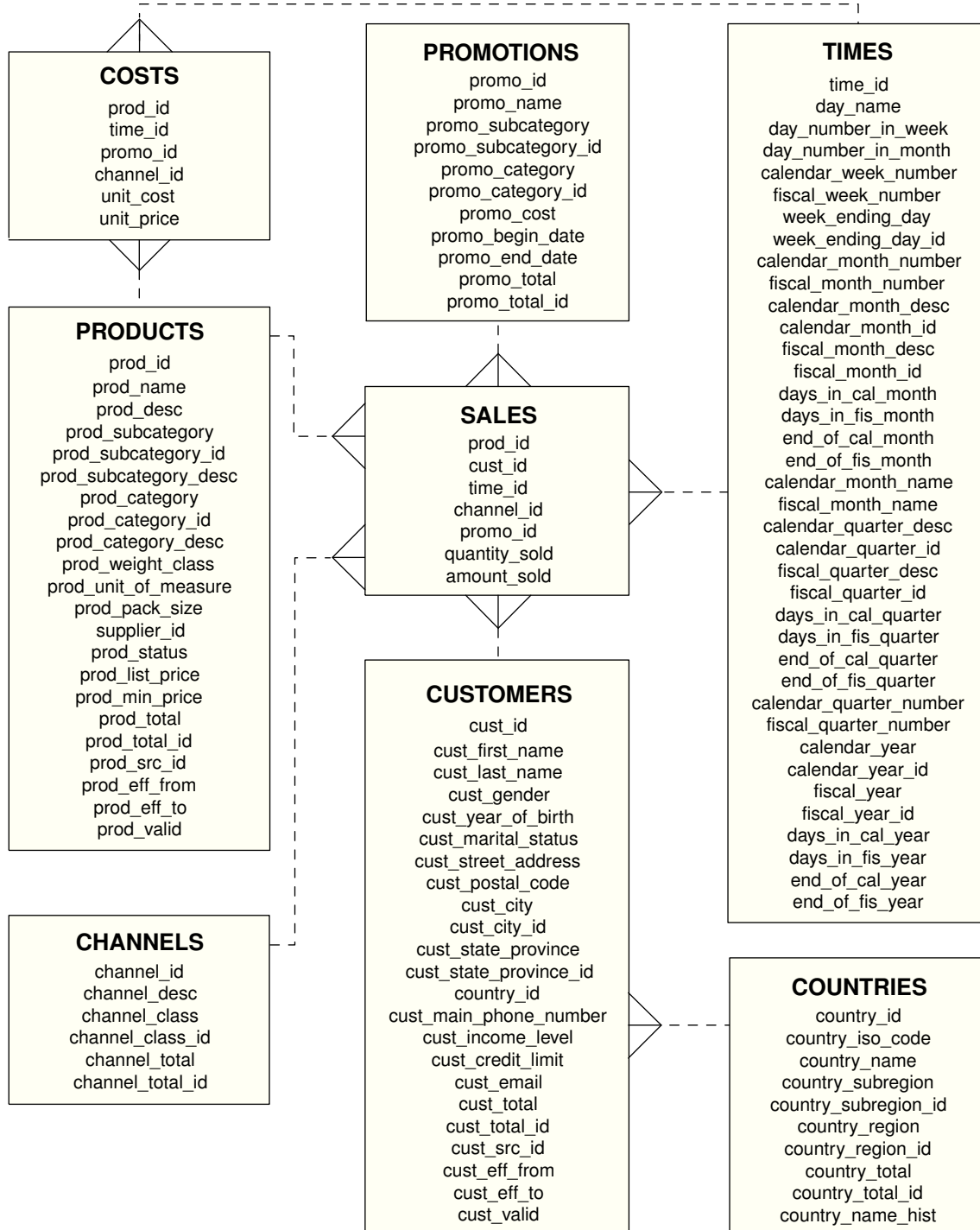
**Figure 3-2 Sample Schemas OE and PM****OE****PM**

Figure 3-3 Sample Schema SH

SH





## Sample Schema Scripts and Object Descriptions

Consider the scripts used to generate the Oracle Database Sample Schemas. Each schema has two primary scripts:

- The `xx_main.sql` script, where `xx` is the schema abbreviation, resets and creates all objects and data for a particular schema. This main script calls all other scripts necessary to build and load the schema.
- Script `xx_drop.sql`, where `xx` is the schema name, removes all objects from a particular schema.

### 4.1 Master Script for Sample Schemas

The master script, `mksample.sql`, sets up the overall Sample Schema environment and creates all the schemas.

In the master script (`mksample.sql`), you will notice variables such as `%s_pmPath%`, `%s_logPath%`, and `%s_shPath%`. These variables are instantiated on installation.

#### 4.1.1 `mksample.sql`

The text of the `mksample.sql` script follows:

```
Rem
Rem $Header: mksample.sql.sbs 02-apr-2003.14:55:17 $
Rem
Rem mksample.sql
Rem
Rem Copyright (c) 2001, 2003, Oracle Corporation. All rights reserved.
Rem
Rem NAME
Rem mksample.sql - creates all 5 Sample Schemas
Rem
Rem DESCRIPTION
Rem This script rees and creates all Schemas belonging
Rem to the Oracle Database 10g Sample Schemas.
Rem If you are unsure about the prerequisites for the Sample Schemas,
Rem please use the Database Configuration Assistant DBCA to
Rem configure the Sample Schemas.
Rem
Rem NOTES
Rem - OUI instantiates this script during install and saves it
Rem as mksample.sql. The instantiated scripts matches
Rem the directory structure on your system
Rem - Tablespace EXAMPLE created with:
Rem CREATE TABLESPACE example
Rem NOLOGGING
```

```
Rem DATAFILE '<filename>' SIZE 150M REUSE
Rem AUTOEXTEND ON NEXT 640k
Rem MAXSIZE UNLIMITED
Rem EXTENT MANAGEMENT LOCAL
Rem SEGMENT SPACE MANAGEMENT AUTO;
Rem
Rem - CAUTION: This script will erase the following schemas:
Rem - HR
Rem - OE
Rem - PM
Rem - SH
Rem - IX
Rem - BI
Rem - CAUTION: Never use the preceding Sample Schemas for
Rem anything other than demos and examples
Rem - USAGE: To return the Sample Schemas to their initial
Rem state, you can call this script and pass the passwords
Rem for SYS, SYSTEM and the schemas as parameters.
Rem Example: @?/demo/schema/mksample mgr secure h1 o2 p3 q4 s5
Rem (please choose your own passwords for security purposes)
Rem
Rem MODIFIED (MM/DD/YY)
Rem
Rem

SET FEEDBACK 1
SET NUMWIDTH 10
SET LINESIZE 80
SET TRIMSPOOL ON
SET TAB OFF
SET PAGESIZE 999
SET ECHO OFF
SET CONCAT ' .'
SET SHOWMODE OFF

PROMPT
PROMPT specify password for SYSTEM as parameter 1:
DEFINE password_system = &1
PROMPT
PROMPT specify password for SYS as parameter 2:
DEFINE password_sys = &2
PROMPT
PROMPT specify password for HR as parameter 3:
DEFINE password_hr = &3
PROMPT
PROMPT specify password for OE as parameter 4:
DEFINE password_oe = &4
PROMPT
PROMPT specify password for PM as parameter 5:
DEFINE password_pm = &5
PROMPT
PROMPT specify password for IX as parameter 6:
DEFINE password_ix = &6
PROMPT
PROMPT specify password for SH as parameter 7:
DEFINE password_sh = &7
PROMPT
PROMPT specify password for BI as parameter 8:
DEFINE password_bi = &8
PROMPT
PROMPT specify default tablespace as parameter 9:
```

```

DEFINE default_ts = &9
PROMPT
PROMPT specify temporary tablespace as parameter 10:
DEFINE temp_ts = &10
PROMPT
PROMPT specify log file directory (including trailing delimiter) as parameter
11:
DEFINE logfile_dir = &11
PROMPT
PROMPT Sample Schemas are being created ...
PROMPT
DEFINE vrs = v3

CONNECT system/&&password_system

DROP USER hr CASCADE;
DROP USER oe CASCADE;
DROP USER pm CASCADE;
DROP USER ix CASCADE;
DROP USER sh CASCADE;
DROP USER bi CASCADE;

CONNECT system/&&password_system

SET SHOWMODE OFF

@?/demo/schema/human_resources/hr_main.sql &password_hr &&default_ts &&temp_ts
&password_sys &&logfile_dir

CONNECT system/&&password_system
SET SHOWMODE OFF

@?/demo/schema/order_entry/oe_main.sql &password_oe &&default_ts &&temp_ts
&password_hr &password_sys %s_oePath% &&logfile_dir &vrs

CONNECT system/&&password_system
SET SHOWMODE OFF

@?/demo/schema/product_media/pm_main.sql &password_pm &&default_ts &&temp_ts
&password_oe &password_sys %s_pmPath% &&logfile_dir %s_pmPath%

CONNECT system/&&password_system
SET SHOWMODE OFF

@?/demo/schema/info_exchange/ix_main.sql &password_ix &&default_ts &&temp_ts
&password_sys &&logfile_dir &vrs

CONNECT system/&&password_system
SET SHOWMODE OFF

@?/demo/schema/sales_history/sh_main &password_sh &&default_ts &&temp_ts
&password_sys %s_shPath% &&logfile_dir &vrs

CONNECT system/&&password_system
SET SHOWMODE OFF

@?/demo/schema/bus_intelligence/bi_main &password_bi &&default_ts &&temp_ts
&password_sys &password_oe &password_sh &&logfile_dir &vrs

CONNECT system/&&password_system

```

```
SPPOOL OFF

DEFINE veri_spool = &&logfile_dir.mkverify_vrs..log

@?/demo/schema/mkverify &&password_system &veri_spool

EXIT
```

## 4.2 HR Sample Schema Scripts and Objects

This section lists the names of the scripts that create the human resources (HR) schema and describes the objects in the schema. [Table 4-1](#) (page 4-4) lists the HR scripts in alphabetical order, while [Table 4-2](#) (page 4-4) lists its objects.

**Table 4-1 HR Sample Schema Scripts**

| Script Name  | Description                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------------------|
| hr_analz.sql | Collects statistics on the tables in the schema                                                              |
| hr_code.sql  | Creates procedural objects in the schema                                                                     |
| hr_comnt.sql | Creates comments for each object in the schema                                                               |
| hr_cre.sql   | Creates the HR objects                                                                                       |
| hr_dn_c.sql  | Adds the distinguished name column used by Oracle Internet Directory to the employees and departments tables |
| hr_dn_d.sql  | Drops the Oracle Internet Directory distinguished name column from employees and departments                 |
| hr_drop.sql  | Drops schema HR and all its objects                                                                          |
| hr_idx.sql   | Creates indexes on the HR tables                                                                             |
| hr_main.sql  | Main script for schema HR ; calls other scripts                                                              |
| hr_popul.sql | Populates the objects                                                                                        |

**Table 4-2 HR Sample Schema Objects**

| Object Type | Objects                                                                                                                                                                                                                                                                                                    |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Index       | COUNTRY_C_ID_PK, DEPT_ID_PK, DEPT_LOCATION_IX, EMP_DEPARTMENT_IX, EMP_EMAIL_UK, EMP_EMP_ID_PK, EMP_JOB_IX, EMP_MANAGER_IX, EMP_NAME_IX, JHIST_DEPARTMENT_IX, JHIST_EMPLOYEE_IX, JHIST_EMP_ID_ST_DATE_PK, JHIST_JOB_IX, JOB_ID_PK, LOC_CITY_IX, LOC_COUNTRY_IX, LOC_ID_PK, LOC_STATE_PROVINCE_IX, REG_ID_PK |
| Procedure   | ADD_JOB_HISTORY, SECURE_DML                                                                                                                                                                                                                                                                                |
| Sequence    | DEPARTMENTS_SEQ, EMPLOYEES_SEQ, LOCATIONS_SEQ                                                                                                                                                                                                                                                              |
| Table       | COUNTRIES, DEPARTMENTS, EMPLOYEES, JOBS, JOB_HISTORY, LOCATIONS, REGIONS                                                                                                                                                                                                                                   |
| Trigger     | SECURE_EMPLOYEES, UPDATE_JOB_HISTORY                                                                                                                                                                                                                                                                       |

**Table 4-2 (Cont.) HR Sample Schema Objects**

| Object Type | Objects          |
|-------------|------------------|
| View        | EMP_DETAILS_VIEW |

## 4.3 HR Sample Schema Table Descriptions

Consider the columns of each table of HR sample schema.

- [Table HR.COUNTRIES](#) (page 4-5)
- [Table HR.DEPARTMENTS](#) (page 4-5)
- [Table HR.EMPLOYEES](#) (page 4-6)
- [Table HR.JOBS](#) (page 4-6)
- [Table HR.JOB\\_HISTORY](#) (page 4-6)
- [Table HR.LOCATIONS](#) (page 4-7)
- [Table HR.REGIONS](#) (page 4-7)

### 4.3.1 Table HR.COUNTRIES

**Table 4-3 HR.COUNTRIES Table Description**

| Column Name  | Null?    | Type         |
|--------------|----------|--------------|
| COUNTRY_ID   | NOT NULL | CHAR(2)      |
| COUNTRY_NAME |          | VARCHAR2(40) |
| REGION_ID    |          | NUMBER       |

### 4.3.2 Table HR.DEPARTMENTS

**Table 4-4 HR.DEPARTMENTS Table Description**

| Column Name     | Null?    | Type         |
|-----------------|----------|--------------|
| DEPARTMENT_ID   | NOT NULL | NUMBER(4)    |
| DEPARTMENT_NAME | NOT NULL | VARCHAR2(30) |
| MANAGER_ID      |          | NUMBER(6)    |
| LOCATION_ID     |          | NUMBER(4)    |

### 4.3.3 Table HR.EMPLOYEES

**Table 4-5 HR.EMPLOYEES Table Description**

| Column Name    | Null?    | Type         |
|----------------|----------|--------------|
| EMPLOYEE_ID    | NOT NULL | NUMBER(6)    |
| FIRST_NAME     |          | VARCHAR2(20) |
| LAST_NAME      | NOT NULL | VARCHAR2(25) |
| EMAIL          | NOT NULL | VARCHAR2(20) |
| PHONE_NUMBER   |          | VARCHAR2(20) |
| HIRE_DATE      | NOT NULL | DATE         |
| JOB_ID         | NOT NULL | VARCHAR2(10) |
| SALARY         |          | NUMBER(8,2)  |
| COMMISSION_PCT |          | NUMBER(2,2)  |
| MANAGER_ID     |          | NUMBER(6)    |
| DEPARTMENT_ID  |          | NUMBER(4)    |

### 4.3.4 Table HR.JOBS

**Table 4-6 HR.JOBS Table Description**

| Column Name | Null?    | Type         |
|-------------|----------|--------------|
| JOB_ID      | NOT NULL | VARCHAR2(10) |
| JOB_TITLE   | NOT NULL | VARCHAR2(35) |
| MIN_SALARY  |          | NUMBER(6)    |
| MAX_SALARY  |          | NUMBER(6)    |

### 4.3.5 Table HR.JOB\_HISTORY

**Table 4-7 HR.JOB\_HISTORY Table Description**

| Column Name   | Null?    | Type         |
|---------------|----------|--------------|
| EMPLOYEE_ID   | NOT NULL | NUMBER(6)    |
| START_DATE    | NOT NULL | DATE         |
| END_DATE      | NOT NULL | DATE         |
| JOB_ID        | NOT NULL | VARCHAR2(10) |
| DEPARTMENT_ID |          | NUMBER(4)    |

### 4.3.6 Table HR.LOCATIONS

**Table 4-8** *HR.LOCATIONS Table Description*

| Column Name    | Null?    | Type         |
|----------------|----------|--------------|
| LOCATION_ID    | NOT NULL | NUMBER(4)    |
| STREET_ADDRESS |          | VARCHAR2(40) |
| POSTAL_CODE    |          | VARCHAR2(12) |
| CITY           | NOT NULL | VARCHAR2(30) |
| STATE_PROVINCE |          | VARCHAR2(25) |
| COUNTRY_ID     |          | CHAR(2)      |

### 4.3.7 Table HR.REGIONS

**Table 4-9** *HR.REGIONS Table Description*

| Column Name | Null?    | Type         |
|-------------|----------|--------------|
| REGION_ID   | NOT NULL | NUMBER       |
| REGION_NAME |          | VARCHAR2(25) |

## 4.4 OE Sample Schema Scripts and Objects

This section lists the names of the scripts that create the Order Entry (OE) sample schema and describes the objects in the schema. [Table 4-10](#) (page 4-7) lists the OE scripts in alphabetical order, while [Table 4-11](#) (page 4-8) lists its objects. Note that language-specific statements for product names and descriptions are stored in these files (each representing a different language): `INSERToe_p_us.sql`, `oe_p_ar.sql`, `oe_p_cs.sql`, `oe_p_d.sql`, `oe_p_dk.sql`, `oe_p_e.sql`, `oe_p_el.sql`, `oe_p_es.sql`, `oe_p_f.sql`, `oe_p_frc.sql`, `oe_p_hu.sql`, `oe_p_i.sql`, `oe_p_iw.sql`, `oe_p_ja.sql`, `oe_p_ko.sql`, `oe_p_n.sql`, `oe_p_nl.sql`, `oe_p_pl.sql`, `oe_p_pt.sql`, `oe_p_ptb.sql`, `oe_p_ro.sql`, `oe_p_ru.sql`, `oe_p_s.sql`, `oe_p_sf.sql`, `oe_p_sk.sql`, `oe_p_th.sql`, `oe_p_tr.sql`, `oe_p_zhs.sql`, `oe_p_zht.sql`.

**Table 4-10** *OE Sample Schema Scripts*

| Script Name                           | Description                                                          |
|---------------------------------------|----------------------------------------------------------------------|
| <code>oc_comnt.sql</code>             | Adds comments to the online catalog (OC) subschema wherever possible |
| <code>oc_cre.sql</code>               | Creates subschema OC                                                 |
| <code>oc_drop.sql</code>              | Drops subschema OC                                                   |
| <code>oc_main.sql</code>              | Main script for subschema OC                                         |
| <code>oc_popul.sql<sup>a</sup></code> | Populates the object tables                                          |

**Table 4-10 (Cont.) OE Sample Schema Scripts**

| Script Name  | Description                                        |
|--------------|----------------------------------------------------|
| oe_analz.sql | Gathers statistics on the OE objects               |
| oe_comnt.sql | Creates comments for the objects in the schema     |
| oe_cre.sql   | Creates the OE objects                             |
| oe_drop.sql  | Drops schema OE and all its objects                |
| oe_idx.sql   | Creates indexes on the OE tables                   |
| oe_main.sql  | Main script for the OE schema; calls other scripts |
| oe_views.sql | Creates the OE schema views                        |

**Table 4-11 OE Sample Schema Objects**

| Object Type | Objects                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Index       | CUSTOMERS_PK, CUST_ACCOUNT_MANAGER_IX, CUST_EMAIL_IX, CUST_LNAME_IX, CUST_UPPER_NAME_IX, INVENTORY_IX, INV_PRODUCT_IX, ITEM_ORDER_IX, ITEM_PRODUCT_IX, ORDER_ITEMS_PK, ORDER_ITEMS_UK, ORDER_PK, ORD_CUSTOMER_IX, ORD_ORDER_DATE_IX, ORD_SALES_REP_IX, PRD_DESC_PK, PRODUCT_INFORMATION_PK, PROD_NAME_IX, PROD_SUPPLIER_IX, PROMO_ID_PK, REFERENCE_IS_UNIQUE, SYS_C003584, SYS_C003587, SYS_C003588, SYS_C003589, SYS_C003590, WAREHOUSES_PK, WHS_LOCATION_IX    |
| Function    | GET_PHONE_NUMBER_F                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Sequence    | ORDERS_SEQ                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Lob         | SYS_LOB00000045843C00022\$\$, SYS_LOB00000045843C00023\$\$, SYS_LOB00000045852C00003\$\$, SYS_LOB00000045852C00012\$\$, SYS_LOB00000045852C00013\$\$, SYS_LOB00000046019C00004\$\$, SYS_LOB00000046019C00005\$\$, SYS_LOB00000046019C00007\$\$, SYS_LOB00000046019C00011\$\$, SYS_LOB00000046019C00012\$\$, SYS_LOB00000046019C00015\$\$, SYS_LOB00000046019C00024\$\$, SYS_LOB00000046019C00031\$\$, SYS_LOB00000046019C00032\$\$, SYS_LOB00000046044C00003\$\$ |
| Synonym     | COUNTRIES, DEPARTMENTS, EMPLOYEES, JOBS, JOB_HISTORY, LOCATIONS                                                                                                                                                                                                                                                                                                                                                                                                  |
| Table       | CUSTOMERS, INVENTORIES, ORDERS, ORDER_ITEMS, PRODUCT_DESCRIPTIONS, PRODUCT_INFORMATION, WAREHOUSES                                                                                                                                                                                                                                                                                                                                                               |
| Trigger     | INSERT_ORD_LINE, ORDERS_ITEMS_TRG, ORDERS_TRG                                                                                                                                                                                                                                                                                                                                                                                                                    |



**Table 4-11 (Cont.) OE Sample Schema Objects**

| Object Type | Objects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type        | CATALOG_TYP, CATEGORY_TYP, COMPOSITE_CATEGORY_TYP, CORPORATE_CUSTOMER_TYP, CUSTOMER_TYP, CUST_ADDRESS_TYP, INVENTORY_LIST_TYP, INVENTORY_TYP, LEAF_CATEGORY_TYP, ORDER_ITEM_LIST_TYP, ORDER_ITEM_TYP, ORDER_LIST_TYP, ORDER_TYP, PHONE_LIST_TYP, PRODUCT_INFORMATION_TYP, PRODUCT_REF_LIST_TYP, SUBCATEGORY_REF_LIST_TYP, SYS_YOID00000046073\$, SYS_YOID00000046075\$, SYS_YOID00000046077\$, SYS_YOID00000046079\$, SYS_YOID00000046081\$, WAREHOUSE_TYP, XDBPO_ACTIONS_TYPE, XDBPO_ACTION_COLLECTION, XDBPO_ACTION_TYPE, XDBPO_LINEITEMS_TYPE, XDBPO_LINEITEM_COLLECTION, XDBPO_LINEITEM_TYPE, XDBPO_PART_TYPE, XDBPO_REJECTION_TYPE, XDBPO_SHIPINSTRUCTIONS_TYPE, XDBPO_TYPE |
| Type Body   | CATALOG_TYP, COMPOSITE_CATEGORY_TYP, LEAF_CATEGORY_TYP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| View        | ACCOUNT_MANAGERS, BOMBAY_INVENTORY, CUSTOMERS_VIEW, DEPTVIEW, OC_CORPORATE_CUSTOMERS, OC_CUSTOMERS, OC_INVENTORIES, OC_ORDERS, OC_PRODUCT_INFORMATION, ORDERS_VIEW, PRODUCTS, PRODUCT_PRICES, SYDNEY_INVENTORY, TORONTO_INVENTORY                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## 4.5 OE Sample Schema Table Descriptions

Consider the tables of the OE sample schema.

- [Table OE.CUSTOMERS](#) (page 4-9)
- [Table OE.INVENTORIES](#) (page 4-10)
- [Table OE.ORDERS](#) (page 4-10)
- [Table OE.ORDER\\_ITEMS](#) (page 4-11)
- [Table OE.PRODUCT\\_DESCRIPTIONS](#) (page 4-11)
- [Table OE.PRODUCT\\_INFORMATION](#) (page 4-11)
- [Table OE.WAREHOUSES](#) (page 4-12)
- [Table OE.PURCHASEORDER](#) (page 4-13)

### 4.5.1 Table OE.CUSTOMERS

**Table 4-12 OE.CUSTOMERS Table Description**

| Column Name     | Null?    | Type             |
|-----------------|----------|------------------|
| CUSTOMER_ID     | NOT NULL | NUMBER(6)        |
| CUST_FIRST_NAME | NOT NULL | VARCHAR2(20)     |
| CUST_LAST_NAME  | NOT NULL | VARCHAR2(20)     |
| CUST_ADDRESS    |          | CUST_ADDRESS_TYP |

**Table 4-12 (Cont.) OE.CUSTOMERS Table Description**

| Column Name       | Null? | Type               |
|-------------------|-------|--------------------|
| PHONE_NUMBERS     |       | PHONE_LIST_TYP     |
| NLS_LANGUAGE      |       | VARCHAR2(3)        |
| NLS_TERRITORY     |       | VARCHAR2(30)       |
| CREDIT_LIMIT      |       | NUMBER(9,2)        |
| CUST_EMAIL        |       | VARCHAR2(30)       |
| ACCOUNT_MGR_ID    |       | NUMBER(6)          |
| CUST_GEO_LOCATION |       | MDSYS.SDO_GEOMETRY |
| DATE_OF_BIRTH     |       | DATE               |
| MARITAL_STATUS    |       | VARCHAR2(20)       |
| GENDER            |       | VARCHAR2(1)        |
| INCOME_LEVEL      |       | VARCHAR2(20)       |

## 4.5.2 Table OE.INVENTORIES

**Table 4-13 OE.INVENTORIES Table Description**

| Column Name      | Null?    | Type      |
|------------------|----------|-----------|
| PRODUCT_ID       | NOT NULL | NUMBER(6) |
| WAREHOUSE_ID     | NOT NULL | NUMBER(3) |
| QUANTITY_ON_HAND | NOT NULL | NUMBER(8) |

## 4.5.3 Table OE.ORDERS

**Table 4-14 OE.ORDERS Table Description**

| Column Name  | Null?    | Type                              |
|--------------|----------|-----------------------------------|
| ORDER_ID     | NOT NULL | NUMBER(12)                        |
| ORDER_DATE   | NOT NULL | TIMESTAMP(6) WITH LOCAL TIME ZONE |
| ORDER_MODE   |          | VARCHAR2(8)                       |
| CUSTOMER_ID  | NOT NULL | NUMBER(6)                         |
| ORDER_STATUS |          | NUMBER(2)                         |
| ORDER_TOTAL  |          | NUMBER(8,2)                       |
| SALES_REP_ID |          | NUMBER(6)                         |

**Table 4-14 (Cont.) OE.ORDERS Table Description**

| Column Name  | Null? | Type      |
|--------------|-------|-----------|
| PROMOTION_ID |       | NUMBER(6) |

#### 4.5.4 Table OE.ORDER\_ITEMS

**Table 4-15 OE.ORDER\_ITEMS Table Description**

| Column Name  | Null?    | Type        |
|--------------|----------|-------------|
| ORDER_ID     | NOT NULL | NUMBER(12)  |
| LINE_ITEM_ID | NOT NULL | NUMBER(3)   |
| PRODUCT_ID   | NOT NULL | NUMBER(6)   |
| UNIT_PRICE   |          | NUMBER(8,2) |
| QUANTITY     |          | NUMBER(8)   |

#### 4.5.5 Table OE.PRODUCT\_DESCRIPTIONS

**Table 4-16 OE.PRODUCT\_DESCRIPTIONS Table Description**

| Column Name            | Null?    | Type            |
|------------------------|----------|-----------------|
| PRODUCT_ID             | NOT NULL | NUMBER(6)       |
| LANGUAGE_ID            | NOT NULL | VARCHAR2(3)     |
| TRANSLATED_NAME        | NOT NULL | NVARCHAR2(50)   |
| TRANSLATED_DESCRIPTION | NOT NULL | NVARCHAR2(2000) |

#### 4.5.6 Table OE.PRODUCT\_INFORMATION

**Table 4-17 OE.PRODUCT\_INFORMATION Table Description**

| Column Name         | Null?    | Type                      |
|---------------------|----------|---------------------------|
| PRODUCT_ID          | NOT NULL | NUMBER(6)                 |
| PRODUCT_NAME        |          | VARCHAR2(50)              |
| PRODUCT_DESCRIPTION |          | VARCHAR2(2000)            |
| CATEGORY_ID         |          | NUMBER(2)                 |
| WEIGHT_CLASS        |          | NUMBER(1)                 |
| WARRANTY_PERIOD     |          | INTERVAL YEAR(2) TO MONTH |
| SUPPLIER_ID         |          | NUMBER(6))                |
| PRODUCT_STATUS      |          | VARCHAR2(20)              |

**Table 4-17 (Cont.) OE.PRODUCT\_INFORMATION Table Description**

| Column Name | Null? | Type         |
|-------------|-------|--------------|
| LIST_PRICE  |       | NUMBER(8, 2) |
| MIN_PRICE   |       | NUMBER(8, 2) |
| CATALOG_URL |       | VARCHAR2(50) |

## 4.5.7 Table OE.WAREHOUSES

**Table 4-18 OE.WAREHOUSES Table Description**

| Column Name     | Null?    | Type               |
|-----------------|----------|--------------------|
| WAREHOUSE_ID    | NOT NULL | NUMBER(3)          |
| WAREHOUSE_SPEC  |          | SYS.XMLTYPE        |
| WAREHOUSE_NAME  |          | VARCHAR2(35)       |
| LOCATION_ID     |          | NUMBER(4)          |
| WH_GEO_LOCATION |          | MDSYS.SDO_GEOMETRY |

Column `warehouse_spec` of table `OE.warehouses` contains `XMLType` data. This data is not based on any XML schema, which means that it can take any form. However, the actual data in column `warehouse_spec` at the outset (before any changes you might have made to it) has a top-level element `Warehouse` with the following child elements:

- `Building`, with text node `Owned` or `Rented`
- `Area`, with text node a number (representing, for example, square feet)
- `Docks`, with text node the number of loading docks (for example, 1, 2, or 3)
- `DockType`, with text node `empty` or `Rear Load` or `Side Load`
- `WaterAccess`, with text node `Y` or `N`
- `RailAccess`, with text node `Y` or `N`
- `Parking`, with text node `Street` or `Lot`
- `VClearance` (vertical clearance), with text node a number followed by a linear unit (for example, 11.5 ft)

---

**See Also:**

*Oracle XML DB Developer's Guide* for examples using the `XMLType` data in column `warehouse_spec`

---

## 4.5.8 Table OE.PURCHASEORDER

Table OE.purchaseorder is an object-relational table with XMLType data. The data conforms to XML schema purchaseOrder.xsd.

## 4.6 PM Sample Schema Scripts and Objects

This section lists the names of the scripts that create the Product Media (PM) schema and describes the objects in the schema. [Table 4-19](#) (page 4-13) lists the PM scripts in alphabetical order, while [Table 4-20](#) (page 4-13) lists its objects. Note that the SQL\*Loader data file pm\_p\_lob.dat contains hard-coded absolute path names that have been set during installation. Before attempting to load the data in a different environment, you should first edit the path names in this file.

**Table 4-19 PM Schema Scripts**

| Script Name                                                 | Description                                          |
|-------------------------------------------------------------|------------------------------------------------------|
| pm_analz.sql                                                | Gathers statistics on the PM objects                 |
| pm_cre.sql                                                  | Creates the PM objects                               |
| pm_drop.sql                                                 | Drops schema PM and all its objects                  |
| pm_p_ord.sql,<br>pm_p_lob.sql,<br>pm_p_lobctl, pm_p_lob.dat | Populates the objects in the schema                  |
| pm_main.sql                                                 | Main script for schema PM, which calls other scripts |

**Table 4-20 PM Sample Schema Objects**

| Object Type | Objects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Index       | ONLINEMEDIA_PK, PRINTMEDIA_PK, SYS_C003538                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Lob         | SYS_LOB0000045882C00003\$\$, SYS_LOB0000045882C00017\$\$,<br>SYS_LOB0000045882C00019\$\$, SYS_LOB0000045882C00034\$\$,<br>SYS_LOB0000045882C00042\$\$, SYS_LOB0000045882C00054\$\$,<br>SYS_LOB0000045882C00062\$\$, SYS_LOB0000045882C00069\$\$,<br>SYS_LOB0000045882C00071\$\$, SYS_LOB0000045882C00080\$\$,<br>SYS_LOB0000045907C00003\$\$, SYS_LOB0000045907C00004\$\$,<br>SYS_LOB0000045907C00005\$\$, SYS_LOB0000045907C00006\$\$,<br>SYS_LOB0000045907C00009\$\$, SYS_LOB0000045907C00015\$\$,<br>SYS_LOB0000045908C00004\$\$ |
| Table       | ONLINE_MEDIA, PRINT_MEDIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Type        | ADHEADER_TYP, TEXTDOC_TAB, TEXTDOC_TYP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## 4.7 PM Sample Schema Table Descriptions

Consider the columns of each table of PM sample schema.

- [Table PM.ONLINE\\_MEDIA](#) (page 4-14)
- [Table PM.PRINT\\_MEDIA](#) (page 4-14)

### 4.7.1 Table PM.ONLINE\_MEDIA

**Table 4-21** *PM.ONLINE\_MEDIA Table Description*

| Column Name             | Null?       | Type                                                                                                                                                                                                 |
|-------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRODUCT_ID              | NOT<br>NULL | NUMBER(6)                                                                                                                                                                                            |
| PRODUCT_PHOTO           |             | ORDSYS.ORDIMAGE                                                                                                                                                                                      |
| PRODUCT_PHOTO_SIGNATURE |             | ORDSYS.ORDIMAGESIGNATURE<br>This type, <code>ORDImageSignature</code> , is deprecated; do not use it in new code. Existing occurrences of this object type will continue to function as in the past. |
| PRODUCT_THUMBNAIL       |             | ORDSYS.ORDIMAGE                                                                                                                                                                                      |
| PRODUCT_VIDEO           |             | ORDSYS.ORDVIDEO                                                                                                                                                                                      |
| PRODUCT_AUDIO           |             | ORDSYS.ORDAUDIO                                                                                                                                                                                      |
| PRODUCT_TEXT            |             | CLOB                                                                                                                                                                                                 |
| PRODUCT_TESTIMONIALS    |             | ORDSYS.ORDDOC                                                                                                                                                                                        |

### 4.7.2 Table PM.PRINT\_MEDIA

**Table 4-22** *PM.PRINT\_MEDIA Table Description*

| Column Name      | Null?    | Type            |
|------------------|----------|-----------------|
| PRODUCT_ID       | NOT NULL | NUMBER(6)       |
| AD_ID            | NOT NULL | NUMBER(6)       |
| AD_COMPOSITE     |          | BLOB            |
| AD_SOURCETEXT    |          | CLOB            |
| AD_FINALTEXT     |          | CLOB            |
| AD_FLTEXTN       |          | NCLOB           |
| AD_TEXTDOCS_NTAB |          | TEXTDOC_TAB     |
| AD_PHOTO         |          | BLOB            |
| AD_GRAPHIC       |          | BINARY FILE LOB |
| AD_HEADER        |          | ADHEADER_TYP    |

## 4.8 IX Sample Schema Scripts and Objects

This section lists the names of the scripts that create the Information Exchange (IX) schema group and describes the objects in the schemas. [Table 4-23](#) (page 4-15) lists the IX scripts in alphabetical order, while [Table 4-24](#) (page 4-15) lists its objects.

**Table 4-23 IX Sample Schema Scripts**

| Script Name | Description                                    |
|-------------|------------------------------------------------|
| cix_v3.sql  | Creates the IX schema objects                  |
| dix_v3.sql  | Drops schema IX objects                        |
| ix_main.sql | Main script for schema IX; calls other scripts |
| vix_v3.sql  | Enables, disables, and verifies IX objects     |

**Table 4-24 IX Sample Schema Objects**

| Object Type        | Objects                                                                                                                                                                                                    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Evaluation Context | AQ\$_ORDERS_QUEUE_TABLE_V, AQ\$_STREAMS_QUEUE_TABLE_V                                                                                                                                                      |
| Index              | SYS_C003540, SYS_C003543, SYS_C003548, SYS_C003551, SYS_IOT_TOP_45932, SYS_IOT_TOP_45934, SYS_IOT_TOP_45936, SYS_IOT_TOP_45939, SYS_IOT_TOP_45949, SYS_IOT_TOP_45951, SYS_IOT_TOP_45953, SYS_IOT_TOP_45956 |
| Lob                | SYS_LOB0000045926C00036\$\$, SYS_LOB0000045941C00028\$\$, SYS_LOB0000045941C00029\$\$                                                                                                                      |
| Queue              | AQ\$_ORDERS_QUEUE_TABLE_E, AQ\$_STREAMS_QUEUE_TABLE_E, ORDERS_QUEUE, STREAMS_QUEUE                                                                                                                         |
| Rule Set           | ORDERS_QUEUE_N, ORDERS_QUEUE_R, STREAMS_QUEUE_N, STREAMS_QUEUE_R                                                                                                                                           |
| Sequence           | AQ\$_ORDERS_QUEUE_TABLE_N, AQ\$_STREAMS_QUEUE_TABLE_N                                                                                                                                                      |
| Table              | ORDERS_QUEUE_TABLE, STREAMS_QUEUE_TABLE                                                                                                                                                                    |
| Type               | ORDER_EVENT_TYP                                                                                                                                                                                            |
| View               | AQ\$ORDERS_QUEUE_TABLE, AQ\$ORDERS_QUEUE_TABLE_R, AQ\$ORDERS_QUEUE_TABLE_S, AQ\$STREAMS_QUEUE_TABLE, AQ\$STREAMS_QUEUE_TABLE_R, AQ\$STREAMS_QUEUE_TABLE_S                                                  |

## 4.9 IX Sample Schema Table Descriptions

Consider the columns of each table of IX sample schema.

- [Table IX.ORDERS\\_QUEUE\\_TABLE](#) (page 4-15)
- [Table IX.STREAMS\\_QUEUE\\_TABLE](#) (page 4-17)

### 4.9.1 Table IX.ORDERS\_QUEUE\_TABLE

**Table 4-25 IX.ORDERS\_QUEUE\_TABLE Table Description**

| Column Name | Null? | Type         |
|-------------|-------|--------------|
| Q_NAME      |       | VARCHAR2(30) |

**Table 4-25 (Cont.) IX.ORDERS\_QUEUE\_TABLE Table Description**

| Column Name       | Null?    | Type            |
|-------------------|----------|-----------------|
| MSGID             | NOT NULL | RAW(16)         |
| CORRID            |          | VARCHAR2(128)   |
| PRIORITY          |          | NUMBER          |
| STATE             |          | NUMBER          |
| DELAY             |          | TIMESTAMP(6)    |
| EXPIRATION        |          | NUMBER          |
| TIME_MANAGER_INFO |          | TIMESTAMP(6)    |
| LOCAL_ORDER_NO    |          | NUMBER          |
| CHAIN_NO          |          | NUMBER          |
| CSCN              |          | NUMBER          |
| DSCN              |          | NUMBER          |
| ENQ_TIME          |          | TIMESTAMP(6)    |
| ENQ_UID           |          | VARCHAR2(30)    |
| ENQ_TID           |          | VARCHAR2(30)    |
| DEQ_TIME          |          | TIMESTAMP(6)    |
| EEQ_UID           |          | VARCHAR2(30)    |
| DEQ_TID           |          | VARCHAR2(30)    |
| RETRY_COUNT       |          | NUMBER          |
| EXCEPTION_QSCHEMA |          | VARCHAR2(30)    |
| EXCEPTION_QUEUE   |          | VARCHAR2(30)    |
| STEP_NO           |          | NUMBER          |
| RECIPIENT_KEY     |          | NUMBER          |
| DEQUEUE_MSGID     |          | RAW(16)         |
| SENDER_NAME       |          | VARCHAR2(30)    |
| SENDER_ADDRESS    |          | VARCHAR2(1024)  |
| SENDER_PROTOCOL   |          | NUMBER          |
| USER_DATA         |          | ORDER_EVENT_TYP |
| USER_PROP         |          | SYS.ANYDATA     |



## 4.9.2 Table IX.STREAMS\_QUEUE\_TABLE

**Table 4-26 IX.STREAMS\_QUEUE\_TABLE Table Description**

| Column Name       | Null?    | Type            |
|-------------------|----------|-----------------|
| Q_NAME            |          | VARCHAR2(30)    |
| MSGID             | NOT NULL | RAW(16)         |
| CORRID            |          | VARCHAR2(128)   |
| PRIORITY          |          | NUMBER          |
| STATE             |          | NUMBER          |
| DELAY             |          | TIMESTAMP(6)    |
| EXPIRATION        |          | NUMBER          |
| TIME_MANAGER_INFO |          | TIMESTAMP(6)    |
| LOCAL_ORDER_NO    |          | NUMBER          |
| CHAIN_NO          |          | NUMBER          |
| CSCN              |          | NUMBER          |
| DSCN              |          | NUMBER          |
| ENQ_TIME          |          | TIMESTAMP(6)    |
| ENQ_UID           |          | VARCHAR2(30)    |
| ENQ_TID           |          | VARCHAR2(30)    |
| DEQ_TIME          |          | TIMESTAMP(6)    |
| EEQ_UID           |          | VARCHAR2(30)    |
| DEQ_TID           |          | VARCHAR2(30)    |
| RETRY_COUNT       |          | NUMBER          |
| EXCEPTION_QSCHEMA |          | VARCHAR2(30)    |
| EXCEPTION_QUEUE   |          | VARCHAR2(30)    |
| STEP_NO           |          | NUMBER          |
| RECIPIENT_KEY     |          | NUMBER          |
| DEQUEUE_MSGID     |          | RAW(16)         |
| SENDER_NAME       |          | VARCHAR2(30)    |
| SENDER_ADDRESS    |          | VARCHAR2(1024)  |
| SENDER_PROTOCOL   |          | NUMBER          |
| USER_DATA         |          | ORDER_EVENT_TYP |

**Table 4-26 (Cont.) IX.STREAMS\_QUEUE\_TABLE Table Description**

| Column Name | Null? | Type        |
|-------------|-------|-------------|
| USER_PROP   |       | SYS.ANYDATA |

## 4.10 SH Sample Schema Scripts and Objects

This section lists the names of the scripts that create the Sales History (SH) schema and describes the objects in the schema. [Table 4-27](#) (page 4-18) lists the SH scripts in alphabetical order, while [Table 4-28](#) (page 4-18) lists its objects.

**Table 4-27 SH Sample Schema Scripts**

| Script Name  | Description                                                |
|--------------|------------------------------------------------------------|
| sh_analz.sql | Gathers statistics on the schema objects                   |
| sh_comnt.sql | Creates comments for the objects in the schema             |
| sh_cons.sql  | Modifies constraints on objects in the schema              |
| sh_cre.sql   | Creates the objects in the schema                          |
| sh_cremv.sql | Creates materialized views and bitmapped indexes           |
| sh_drop.sql  | Drops schema SH and all its objects                        |
| sh_idx.sql   | Creates indexes on tables in the schema                    |
| sh_main.sql  | Main script for schema SH; calls other scripts             |
| olp_v3.sql   | Creates dimensions and hierarchies used by the OLAP server |
| sh_olp_d.sql | Drops the objects used by the OLAP server                  |

**Table 4-28 SH Sample Schema Objects**

| Object Type     | Objects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension       | CHANNELS_DIM, CUSTOMERS_DIM, PRODUCTS_DIM, PROMOTIONS_DIM, TIMES_DIM                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Index           | CHANNELS_PK, COSTS_PROD_BIX, COSTS_TIME_BIX, COUNTRIES_PK, CUSTOMERS_GENDER_BIX, CUSTOMERS_MARITAL_BIX, CUSTOMERS_PK, CUSTOMERS_YOB_BIX, DR\$SUP_TEXT_IDX\$, FW_PSC_S_MV_CHAN_BIX, FW_PSC_S_MV_PROMO_BIX, FW_PSC_S_MV_SUBCAT_BIX, FW_PSC_S_MV_WD_BIX, PRODUCTS_PK, PRODUCTS_PROD_CAT_IX, PRODUCTS_PROD_STATUS_BIX, PRODUCTS_PROD_SUBCAT_IX, PROMO_PK, SALES_CHANNEL_BIX, SALES_CUST_BIX, SALES_PROD_BIX, SALES_PROMO_BIX, SALES_TIME_BIX, SUP_TEXT_IDX, SYS_IOT_TOP_45927, SYS_IOT_TOP_45932, TIMES_PK |
| Index Partition | COSTS_PROD_BIX, COSTS_TIME_BIX, SALES_CHANNEL_BIX, SALES_CUST_BIX, SALES_PROD_BIX, SALES_PROMO_BIX, SALES_TIME_BIX                                                                                                                                                                                                                                                                                                                                                                                     |

**Table 4-28 (Cont.) SH Sample Schema Objects**

| Object Type       | Objects                                                                   |
|-------------------|---------------------------------------------------------------------------|
| Lob               | SYS_LOB0000045924C00006\$\$, SYS_LOB0000045929C00002\$\$                  |
| Materialized View | CAL_MONTH_SALES_MV, FWEEK_PSCAT_SALES_MV                                  |
| Table             | CHANNELS, COSTS, COUNTRIES, CUSTOMERS, PRODUCTS, PROMOTIONS, SALES, TIMES |
| Table Partition   | COSTS, SALES                                                              |
| View              | PROFITS                                                                   |

## 4.11 SH Sample Schema Table Descriptions

Consider the columns of each table of SH sample schema.

- [Table SH.CHANNELS](#) (page 4-19)
- [Table SH.COSTS](#) (page 4-20)
- [Table SH.COUNTRIES](#) (page 4-20)
- [Table SH.CUSTOMERS](#) (page 4-20)
- [Table SH.PRODUCTS](#) (page 4-21)
- [Table SH.PROMOTIONS](#) (page 4-22)
- [Table SH.SALES](#) (page 4-23)
- [Table SH.TIMES](#) (page 4-23)

### 4.11.1 Table SH.CHANNELS

**Table 4-29 SH.CHANNELS Table Description**

| Column Name      | Null?    | Type         |
|------------------|----------|--------------|
| CHANNEL_ID       | NOT NULL | NUMBER       |
| CHANNEL_DESC     | NOT NULL | VARCHAR2(20) |
| CHANNEL_CLASS    | NOT NULL | VARCHAR2(20) |
| CHANNEL_CLASS_ID | NOT NULL | NUMBER       |
| CHANNEL_TOTAL    | NOT NULL | VARCHAR2(13) |
| CHANNEL_TOTAL_ID | NOT NULL | NUMBER       |

## 4.11.2 Table SH.COSTS

**Table 4-30 SH.COSTS Table Description**

| Column Name | Null?    | Type         |
|-------------|----------|--------------|
| PROD_ID     | NOT NULL | NUMBER       |
| TIME_DESC   | NOT NULL | DATE         |
| PROMO_ID    | NOT NULL | NUMBER       |
| CHANNEL_ID  | NOT NULL | NUMBER       |
| UNIT_COST   | NOT NULL | NUMBER(10,2) |
| UNIT_PRICE  | NOT NULL | NUMBER(10,2) |

## 4.11.3 Table SH.COUNTRIES

**Table 4-31 SH.COUNTRIES Table Description**

| Column Name          | Null?    | Type         |
|----------------------|----------|--------------|
| COUNTRY_ID           | NOT NULL | NUMBER       |
| COUNTRY_ISO_CODE     | NOT NULL | CHAR(2)      |
| COUNTRY_NAME         | NOT NULL | VARCHAR2(40) |
| COUNTRY_SUBREGION    | NOT NULL | VARCHAR2(30) |
| COUNTRY_SUBREGION_ID | NOT NULL | NUMBER       |
| COUNTRY_REGION       | NOT NULL | VARCHAR2(20) |
| COUNTRY_REGION_ID    | NOT NULL | NUMBER       |
| COUNTRY_TOTAL        | NOT NULL | VARCHAR2(11) |
| COUNTRY_TOTAL_ID     | NOT NULL | NUMBER       |
| COUNTRY_NAME_HIST    |          | VARCHAR2(40) |

## 4.11.4 Table SH.CUSTOMERS

**Table 4-32 SH.CUSTOMERS Table Description**

| Column Name     | Null?    | Type         |
|-----------------|----------|--------------|
| CUST_ID         | NOT NULL | NUMBER       |
| CUST_FIRST_NAME | NOT NULL | VARCHAR2(20) |
| CUST_LAST_NAME  | NOT NULL | VARCHAR2(40) |
| CUST_GENDER     | NOT NULL | CHAR(1)      |

**Table 4-32 (Cont.) SH.CUSTOMERS Table Description**

| Column Name            | Null?    | Type         |
|------------------------|----------|--------------|
| CUST_YEAR_OF_BIRTH     | NOT NULL | NUMBER(4)    |
| CUST_MARITAL_STATUS    |          | VARCHAR2(20) |
| CUST_STREET_ADDRESS    | NOT NULL | VARCHAR2(40) |
| CUST_POSTAL_CODE       | NOT NULL | VARCHAR2(10) |
| CUST_CITY              | NOT NULL | VARCHAR2(30) |
| CUST_CITY_ID           | NOT NULL | NUMBER       |
| CUST_STATE_PROVINCE    | NOT NULL | VARCHAR2(40) |
| CUST_STATE_PROVINCE_ID | NOT NULL | NUMBER       |
| COUNTRY_ID             | NOT NULL | NUMBER       |
| CUST_MAIN_PHONE_NUMBER | NOT NULL | VARCHAR2(25) |
| CUST_INCOME_LEVEL      |          | VARCHAR2(30) |
| CUST_CREDIT_LIMIT      |          | NUMBER       |
| CUST_EMAIL             |          | VARCHAR2(30) |
| CUST_TOTAL             | NOT NULL | VARCHAR2(14) |
| CUST_TOTAL_ID          | NOT NULL | NUMBER       |
| CUST_SRC_ID            |          | NUMBER       |
| CUST_EFF_FROM          |          | DATE         |
| CUST_EFF_TO            |          | DATE         |
| CUST_VALID             |          | VARCHAR2(1)  |

#### 4.11.5 Table SH.PRODUCTS

**Table 4-33 SH.PRODUCTS Table Description**

| Column Name           | Null?    | Type           |
|-----------------------|----------|----------------|
| PROD_ID               | NOT NULL | NUMBER(6)      |
| PROD_NAME             | NOT NULL | VARCHAR2(50)   |
| PROD_DESC             | NOT NULL | VARCHAR2(4000) |
| PROD_SUBCATEGORY      | NOT NULL | VARCHAR2(50)   |
| PROD_SUBCATEGORY_ID   | NOT NULL | NUMBER         |
| PROD_SUBCATEGORY_DESC | NOT NULL | VARCHAR2(2000) |

**Table 4-33 (Cont.) SH.PRODUCTS Table Description**

| Column Name          | Null?    | Type           |
|----------------------|----------|----------------|
| PROD_CATEGORY        | NOT NULL | VARCHAR2(50)   |
| PRD_CATEGORY_ID      | NOT NULL | NUMBER         |
| PROD_CATEGORY_DESC   | NOT NULL | VARCHAR2(2000) |
| PROD_WEIGHT_CLASS    | NOT NULL | NUMBER(3)      |
| PROD_UNIT_OF_MEASURE |          | VARCHAR2(20)   |
| PRD_PACK_SIZE        | NOT NULL | VARCHAR2(30)   |
| PROD_SUPPLIER_ID     | NOT NULL | NUMBER(6)      |
| PROD_STATUS          | NOT NULL | VARCHAR2(20)   |
| PROD_LIST_PRICE      | NOT NULL | NUMBER(8,2)    |
| PRD_MIN_PRICE        | NOT NULL | NUMBER(8,2)    |
| PROD_TOTAL           | NOT NULL | VARCHAR2(13)   |
| PROD_TOTAL_ID        | NOT NULL | NUMBER         |
| PROD_SRC_ID          |          | NUMBER         |
| PRD_EFF_FROM         |          | DATE           |
| PROD_EFF_TO          |          | DATE           |
| PROD_VALID           |          | VARCHAR2(1)    |

#### 4.11.6 Table SH.PROMOTIONS

**Table 4-34 SH.PROMOTIONS Table Description**

| Column Name          | Null?    | Type         |
|----------------------|----------|--------------|
| PROMO_ID             | NOT NULL | NUMBER(6)    |
| PROMO_NAME           | NOT NULL | VARCHAR2(30) |
| PROMO_SUBCATEGORY    | NOT NULL | VARCHAR2(30) |
| PROMO_SUBCATEGORY_ID | NOT NULL | NUMBER       |
| PROMO_CATEGORY       | NOT NULL | VARCHAR2(30) |
| PRMO_CATEGORY_ID     | NOT NULL | NUMBER       |
| PROMO_COST           | NOT NULL | NUMBER(10,2) |
| PROMO_BEGIN_DATE     | NOT NULL | DATE         |
| PROMO_END_DATE       | NOT NULL | DATE         |

**Table 4-34 (Cont.) SH.PROMOTIONS Table Description**

| Column Name    | Null?    | Type         |
|----------------|----------|--------------|
| PROMO_TOTAL    | NOT NULL | VARCHAR2(15) |
| PROMO_TOTAL_ID | NOT NULL | NUMBER       |

#### 4.11.7 Table SH.SALES

**Table 4-35 SH.SALES Table Description**

| Column Name   | Null?    | Type         |
|---------------|----------|--------------|
| PROD_ID       | NOT NULL | NUMBER       |
| CUST_ID       | NOT NULL | NUMBER       |
| TIME_ID       | NOT NULL | DATE         |
| CHANNEL_ID    | NOT NULL | NUMBER       |
| PROMO_ID      | NOT NULL | NUMBER       |
| QUANTITY_SOLD | NOT NULL | NUMBER(10,2) |
| AMOUNT_SOLD   | NOT NULL | NUMBER(10,2) |

#### 4.11.8 Table SH.TIMES

**Table 4-36 SH.TIMES Table Description**

| Column Name           | Null?    | Type        |
|-----------------------|----------|-------------|
| TIME_ID               | NOT NULL | DATE        |
| DAY_NAME              | NOT NULL | VARCHAR2(9) |
| DAY_NUMBER_IN_WEEK    | NOT NULL | NUMBER(1)   |
| DAY_NUMBER_IN_MONTH   | NOT NULL | NUMBER(2)   |
| CALENDAR_WEEK_NUMBER  | NOT NULL | NUMBER(2)   |
| FISCAL_WEEK_NUMBER    | NOT NULL | NUMBER(2)   |
| WEEK_ENDING_DAY       | NOT NULL | DATE        |
| WEEK_ENDING_DAY_ID    | NOT NULL | NUMBER      |
| CALENDAR_MONTH_NUMBER | NOT NULL | NUMBER(2)   |
| FISCAL_MONTH_NUMBER   | NOT NULL | NUMBER(2)   |
| CALENDAR_MONTH_DESC   | NOT NULL | VARCHAR2(8) |
| CALENDAR_MONTH_ID     | NOT NULL | NUMBER      |

**Table 4-36 (Cont.) SH.TIMES Table Description**

| Column Name             | Null?    | Type        |
|-------------------------|----------|-------------|
| FISCAL_MONTH_DESC       | NOT NULL | VARCHAR2(8) |
| FISCAL_MONTH_ID         | NOT NULL | NUMBER      |
| DAYS_IN_CAL_MONTH       | NOT NULL | NUMBER      |
| DAYS_IN_FIS_MONTH       | NOT NULL | NUMBER      |
| END_OF_CAL_MONTH        | NOT NULL | DATE        |
| END_OF_FIS_MONTH        | NOT NULL | DATE        |
| CALENDAR_MONTH_NAME     | NOT NULL | VARCHAR2(9) |
| FISCAL_MONTH_NAME       | NOT NULL | VARCHAR2(9) |
| CALENDAR_QUARTER_DESC   | NOT NULL | CHAR(7)     |
| CALENDAR_QUARTER_ID     | NOT NULL | NUMBER      |
| FISCAL_QUARTER_DESC     | NOT NULL | CHAR(7)     |
| FISCAL_QUARTER_ID       | NOT NULL | NUMBER      |
| DAYS_IN_CAL_QUARTER     | NOT NULL | NUMBER      |
| DAYS_IN_FIS_QUARTER     | NOT NULL | NUMBER      |
| END_OF_CAL_QUARTER      | NOT NULL | DATE        |
| END_OF_FIS_QUARTER      | NOT NULL | DATE        |
| CALENDAR_QUARTER_NUMBER | NOT NULL | NUMBER(1)   |
| FISCAL_QUARTER_NUMBER   | NOT NULL | NUMBER(1)   |
| CALENDAR_YEAR           | NOT NULL | NUMBER(4)   |
| CALENDAR_YEAR_ID        | NOT NULL | NUMBER      |
| FISCAL_YEAR             | NOT NULL | NUMBER(4)   |
| FISCAL_YEAR_ID          | NOT NULL | NUMBER      |
| DAYS_IN_CAL_YEAR        | NOT NULL | NUMBER      |
| DAYS_IN_FIS_YEAR        | NOT NULL | NUMBER      |
| END_OF_CAL_YEAR         | NOT NULL | DATE        |
| END_OF_FIS_YEAR         | NOT NULL | DATE        |



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