Database System

Lecture 15

SQL Sub Languages

DRL Data Retrieval Language

DRL command

SELECT Statement

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SQL Components Or SQL Sub Languages

DCL: Data Control Language
  Example: Grant, Revoke.

DDL: Data Definition Language.
  Example: Create, Alter, Drop, Rename and Truncate.

DML: Data Manipulation Language
  Example: Insert, Update, Delete

DRL: Data Retrieval Language
  Example: Select

TCL: Transaction Control Language
  Example : Rollback, Commit, Savepoint

DRL-Data Retrieval Language

SELECT Statement :

Use a SELECT statement or subquery to retrieve data from one or more tables, object tables, views, object views.

Prerequisites

For you to select data from a table, view, object view, the object must be in your own schema or you must have the READ or SELECT privilege .

DRL-Data Retrieval Language

The Full syntax:

SELECT [DISTINCT]{*|{specific column}[[AS]c_alias]

 [,{specific column}[[AS] c_alias]] … }

 FROM [schema.]{table|view }[t_alias]

 [,[schema.]{table|view }[t_alias]] …

 [WHERE condition]

 [GROUP BY expr[, expr] …

 [HAVING condition]]

 [{UNION|UNION ALL|INTERSECT|MINUS}

 SELECT command]

[ORDER BY {expr|position| c_alias } [ASC|DESC]

[NULLS FIRST | NULLS LAST]

 [,{expr|position| c_alias } [ASC|DESC]

[NULLS FIRST | NULLS LAST]…]
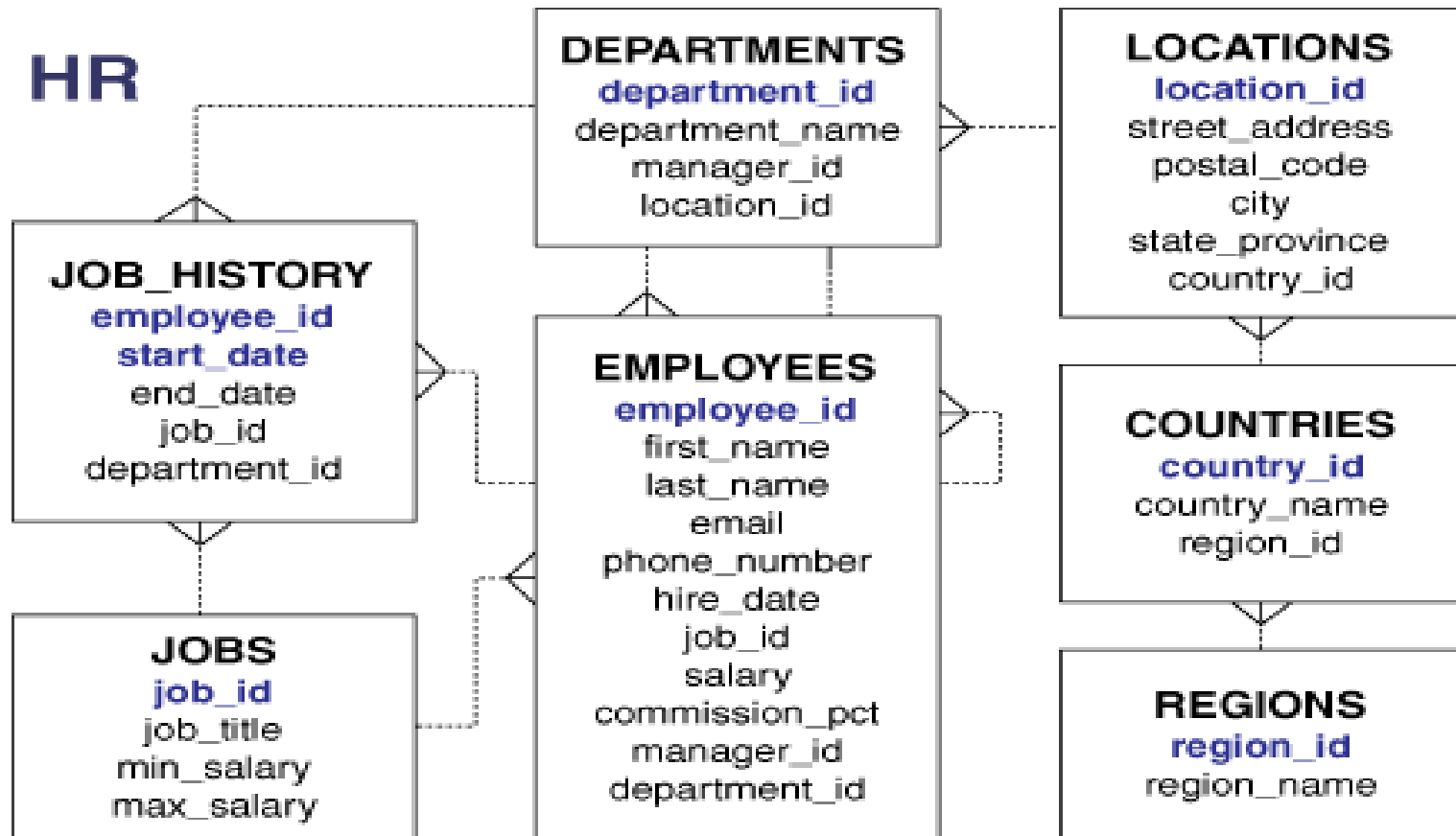
DRL-Data Retrieval Language

First of all will shows how to unlock the HR account and connect to Oracle Database as the user HR, who owns the HR sample schema that we use as example and tutorials in this lecture.

ALTER USER HR ACCOUNT UNLOCK IDENTIFIED BY password;

To display HR tables
SELECT * FROM tab;

DRL-Data Retrieval Language

HR - Entity Relation Diagram(ERD)

DRL-Data Retrieval Language

Displaying all Columns

Shows how to select all columns of the EMPLOYEES table.

SQL> SELECT *

       FROM employees;

The query runs. Under the Worksheet, the Query Result pane appears, showing all columns of the EMPLOYEES table.

IMPRTANT NOTE:

Be very careful about using **SELECT *** on tables with columns that store sensitive data, such as passwords or credit card information.

DRL-Data Retrieval Language

Formatting Columns in SQL-Plus

If the data in SQL-Plus displayed in multi lines and not sorted you can use Formatting Columns.

COL[UMN] {Column | Alias } [OPTIONS]

Examples:
COLUMN employee_id FORMAT 999
COLUMN last_name FORMAT A15
COLUMN salary FORMAT $999.99
COLUMN salary CLEAR

DRL-Data Retrieval Language

Selecting Specific Columns of a Table

Syntax :

SELECT {specific column

[,{specific column}] ... }

Shows how to select only the columns FIRST_NAME,LAST_NAME, and DEPARTMENT_ID of the EMPLOYEES table.

SELECT first_name, last_name, department_id
FROM EMPLOYEES;

FIRST_NAME	LAST_NAME	DEPARTMENT_ID
Donald	OConnell	50

DRL-Data Retrieval Language

Displaying Selected Columns Under New Headings
In displayed query results, default column headings are column names. To display a column under a new heading, specify the new heading (**alias**) immediately after the column name. The alias renames the column for the duration of the query, but does not change its name in the database.

Syntax :
SELECT {specific column [AS] c_alias
**   [,{specific column}[[AS] c_alias]] ... }**

DRL-Data Retrieval Language

Displaying Selected Columns Under New Headings
Example

SELECT first_name AS First, last_name Last, department_id Dept
FROM EMPLOYEES;

The query in Example selects the same columns as the query in Pervious Example , but it also specifies aliases for them. Because the aliases are not enclosed in double quotation marks, they are displayed in uppercase letters.

DRL-Data Retrieval Language

Preserving Case and Including Spaces in Column Aliases

If you enclose column aliases in double quotation marks, case is preserved, and the aliases can include spaces.

SELECT FIRST_NAME "Given Name",
LAST_NAME AS "Family Name"
FROM HR.EMPLOYEES;

Thank you

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