

1

Introduction

Lesson Objectives

After completing this lesson, you should be able to do the following:

- Discuss the goals of the course
- Identify the available environments that can be used in this course
- Describe the database schema and tables that are used in the course
- Describe the salient features of Oracle Cloud 12c
- List the available documentation and resources

Lesson Agenda

- **Course objectives and course agenda**
- The schema and appendixes used in this course and the available PL/SQL development environments in this course
- Overview of Oracle Database 12c and related products
- Oracle documentation and additional resources

Course Objectives

After completing this course, you should be able to do the following:

- Create, execute, and maintain:
 - Procedures and functions
 - Package constructs
 - Database triggers
- Manage PL/SQL subprograms and triggers
- Use a subset of Oracle-supplied packages to generate screen and file output
- Identify various techniques that impact your PL/SQL code design considerations
- Use the PL/SQL compiler and manage dependencies

Suggested Course Agenda

Day 1:

- Lesson 1: Introduction
- Lesson 2: Creating Procedures
- Lesson 3: Creating Functions and Debugging Subprograms
- Lesson 4: Creating Packages

Day 2:

- Lesson 5: Working with Packages
- Lesson 6: Using Oracle-Supplied Packages in Application Development
- Lesson 7: Using Dynamic SQL
- Lesson 8: Design Considerations for PL/SQL Code

Suggested Course Agenda

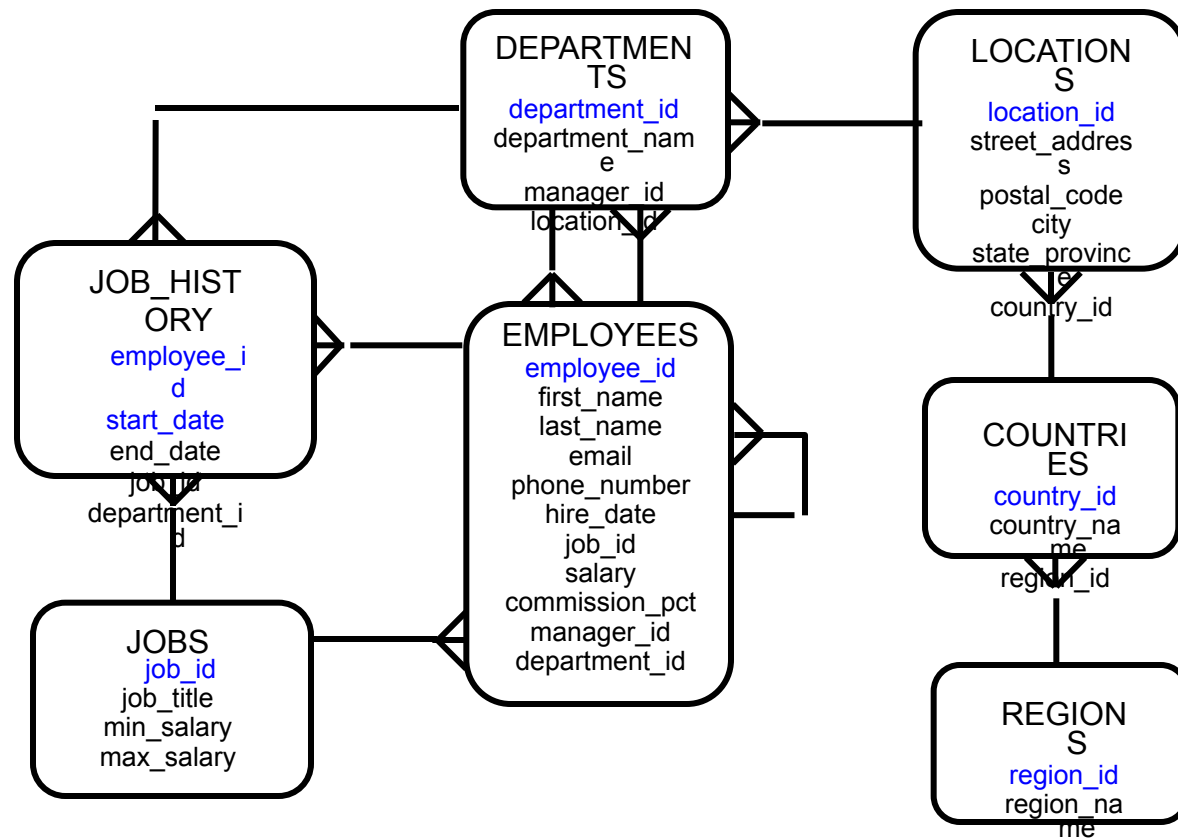
Day 3:

- Lesson 9: Creating Triggers
- Lesson 10: Creating Compound, DDL, and Event Database Triggers
- Lesson 11: Using the PL/SQL Compiler
- Lesson 12: Managing Dependencies

Lesson Agenda

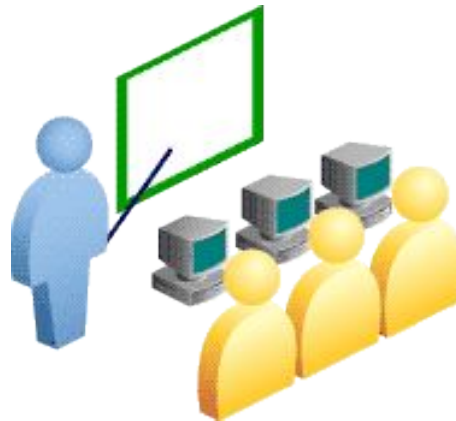
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The Human Resources (HR) Schema That Is Used in This Course



Class Account Information

- Cloned HR account IDs are set up for you.
- Your account IDs are `ora61` or `ora62`.
- The password matches your account ID.
- Each machine has its own database installed.
- The instructor has a separate machine.



Appendixes Used in This Course

- Appendix A: Table Descriptions
- Appendix B: Using SQL Developer
- Appendix C: Using SQL*Plus
- Appendix D: REF Cursors
- Appendix E: Commonly Used SQL Commands
- Appendix F: Managing PL/SQL Code
- Appendix G: Review of PL/SQL
- Appendix H: Studies for Implementing Triggers
- Appendix I: Using the `DBMS_SCHEDULER` and `HTP` Packages

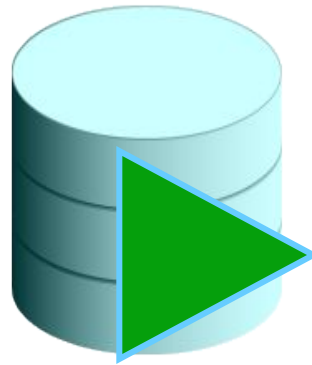
PL/SQL Development Environments

This course setup provides the following tools for developing PL/SQL code:

- Oracle SQL Developer (used in this course)
- Oracle SQL*Plus

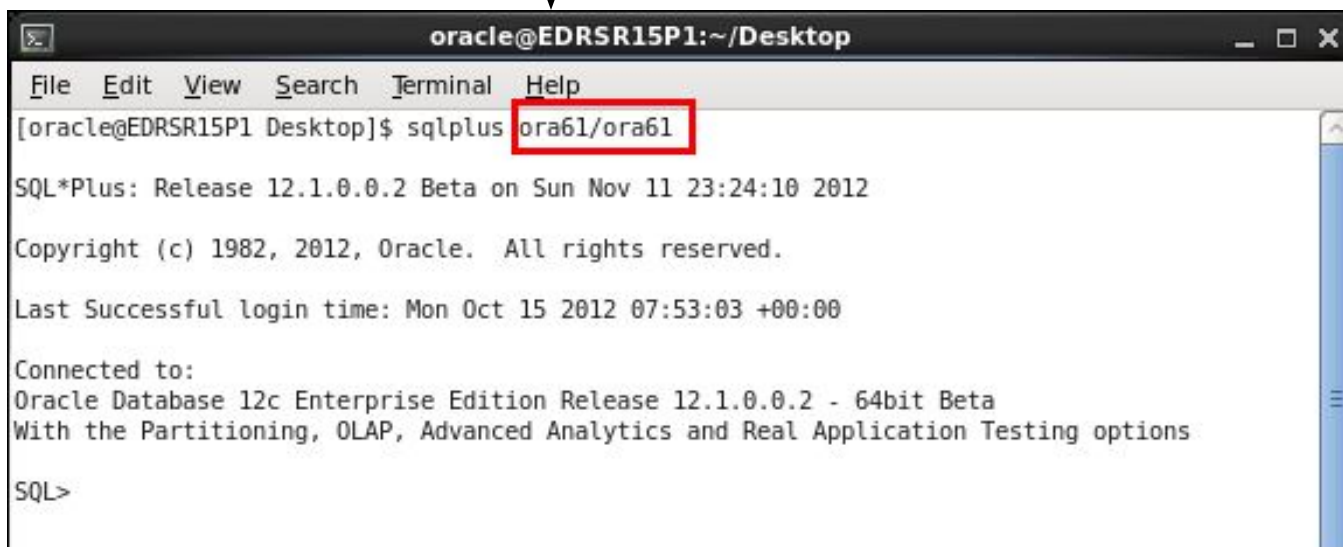
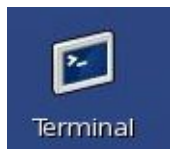
What Is Oracle SQL Developer?

- Oracle SQL Developer is a free graphical tool that enhances productivity and simplifies database development tasks.
- You can connect to any target Oracle database schema using standard Oracle database authentication.
- You use SQL Developer in this course.
- Appendix B contains details about using SQL Developer.



SQL Developer

Coding PL/SQL in SQL*Plus

A screenshot of a terminal window titled "oracle@EDRSR15P1:~/Desktop". The window shows the command "sqlplus ora61/oracle" being entered, with "ora61/oracle" highlighted in a red box. The terminal output includes the SQL*Plus version (12.1.0.0.2 Beta), copyright information, login time, and connection details for Oracle Database 12c Enterprise Edition.

```
oracle@EDRSR15P1:~/Desktop
File Edit View Search Terminal Help
[oracle@EDRSR15P1 Desktop]$ sqlplus ora61/oracle
SQL*Plus: Release 12.1.0.0.2 Beta on Sun Nov 11 23:24:10 2012
Copyright (c) 1982, 2012, Oracle. All rights reserved.
Last Successful login time: Mon Oct 15 2012 07:53:03 +00:00
Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.0.2 - 64bit Beta
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options
SQL>
```

Enabling Output of a PL/SQL Block

1. To enable output in SQL Developer, execute the following command before running the PL/SQL block:

```
SET SERVEROUTPUT ON;
```

2. Use the predefined `DBMS_OUTPUT` Oracle package and its procedure to display the output as follows:

- `DBMS_OUTPUT.PUT_LINE`

```
DBMS_OUTPUT.PUT_LINE('The First Name of the  
Employee is ' || v_fname);  
. . .
```

Lesson Agenda

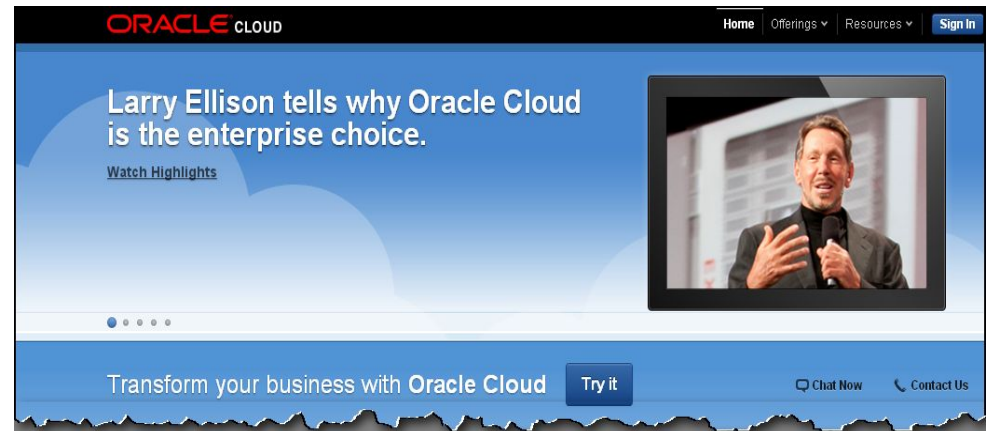
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- Oracle documentation and additional resources

Oracle Cloud

The Oracle Cloud is an enterprise cloud for business. It consists of many different services that share some common characteristics:

- On-demand self-service
- Resource pooling
- Rapid elasticity
- Measured service
- Broad network access

www.cloud.oracle.com



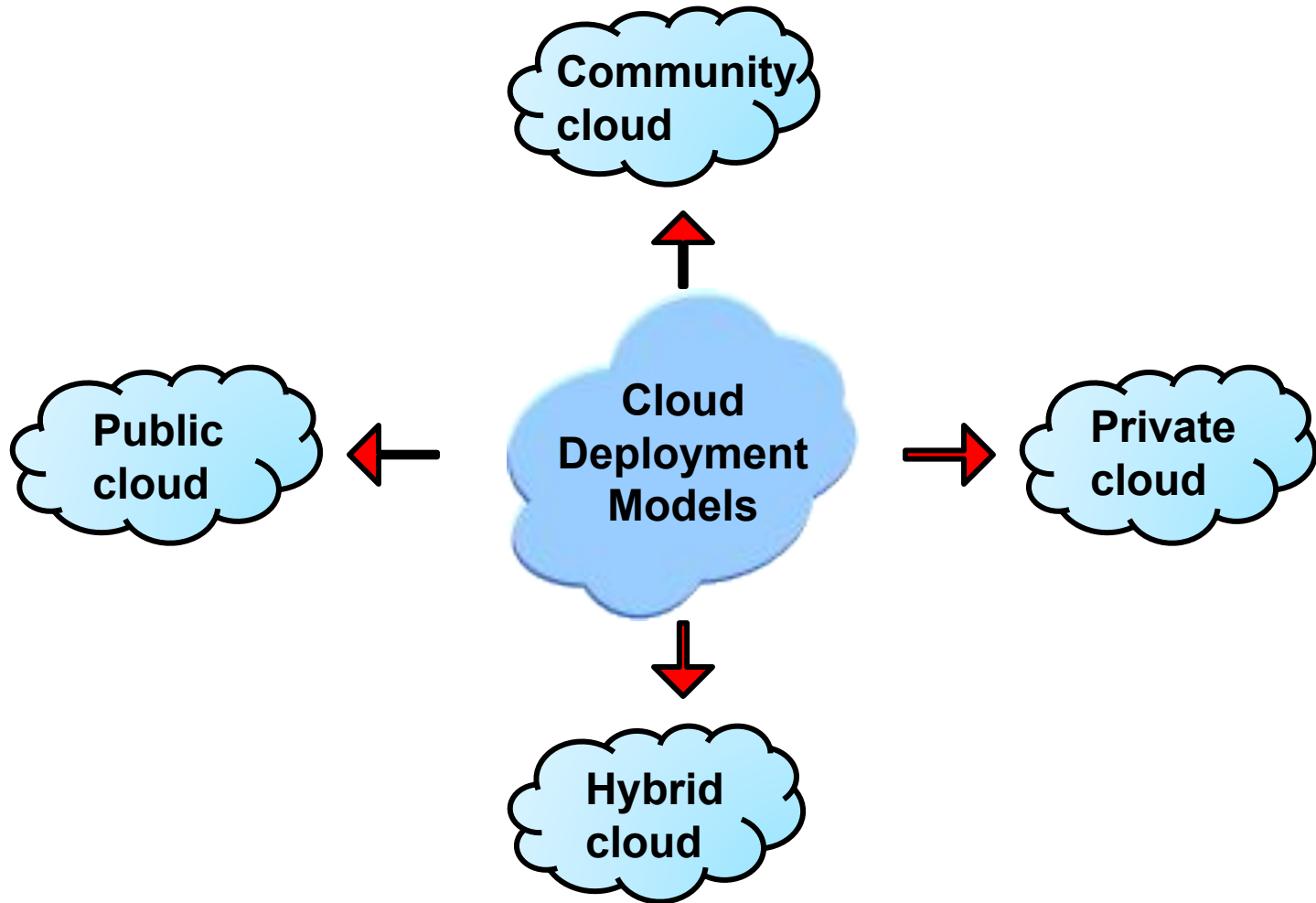
Oracle Cloud Services

Oracle Cloud provides three types of services:

- Software as a Service (SaaS)
- Platform as a Service (PaaS)
- Infrastructure as a Service (IaaS)



Cloud Deployment Models



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Oracle SQL and PL/SQL Documentation

- *Oracle Database New Features Guide*
- *Oracle Database Advanced Application Developer's Guide*
- *Oracle Database PL/SQL Language Reference*
- *Oracle Database Reference*
- *Oracle Database SQL Language Reference*
- *Oracle Database Concepts*
- *Oracle Database PL/SQL Packages and Types Reference*
- *Oracle Database SQL Developer User's Guide*

Additional Resources

For additional information about the new Oracle SQL and PL/SQL new features, refer to the following:

- Oracle Database: New Features Selfstudy
- Oracle by Example (OBE) series:
 - http://apex.oracle.com/pls/apex/f?p=44785:2:0:FORCE_QUERY::2,RIR,%20%20CIR:P2_PRODUCT_ID,P2_PRODUCT_ID2:2011,3127
- What's New in PL/SQL in Oracle Database on the Oracle Technology Network (OTN):
 - <http://www.oracle.com/technetwork/database/features/plsql/index.html>
- Access the online SQL Developer Home Page and SQL Developer tutorial available at:
 - http://www.oracle.com/technology/products/database/sql_developer/index.html
 - <http://download.oracle.com/oll/tutorials/SQLDeveloper/index.htm>

Summary

In this lesson, you should have learned how to:

- Discuss the goals of the course
- Identify the available environments that can be used in this course
- Describe the database schema and tables that are used in the course
- List the available documentation and resources

Practice 1 Overview: Getting Started

This practice covers the following topics:

- Reviewing the available SQL Developer resources
- Starting SQL Developer and creating a new database connection and browsing your schema tables
- Setting some SQL Developer preferences
- Executing SQL statements and an anonymous PL/SQL block using SQL Worksheet
- Accessing and bookmarking the Oracle Database documentation and other useful websites

