

# 1

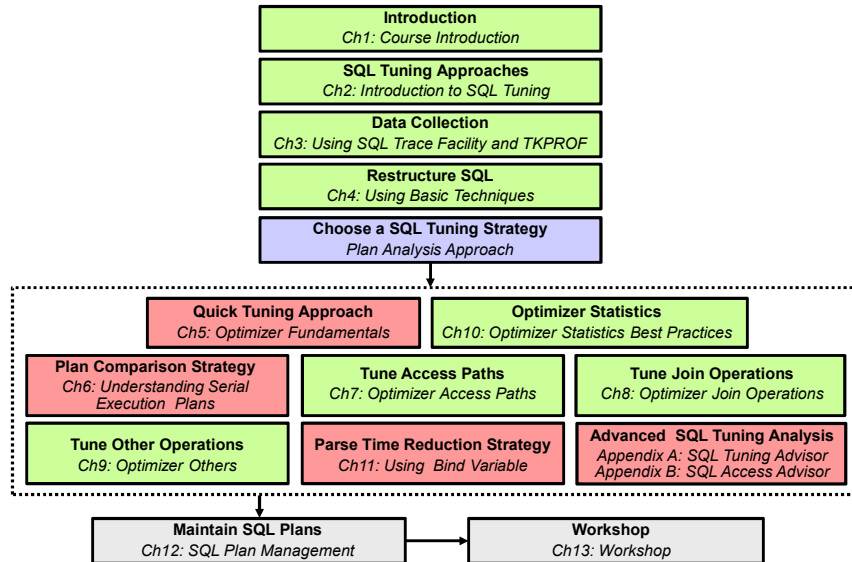
## Course Introduction

### Course Objectives

After completing this course, you should be able to:

- Choose an appropriate SQL tuning approach
- Gather the suspected session statistics by using the SQL trace facility and interpret the traced information
- Identify poorly performing SQL statements
- Use basic tuning techniques to tune inefficient SQLs
- Interpret execution plans
- Describe the Oracle optimizer fundamentals
  - Explain the various phases of optimization
  - Control the behavior of the optimizer
  - Optimizer access paths, join, and other operations
  - Optimizer statistics best practices
- Manage SQL performance through changes

## Course Outline Map



## Audience and Prerequisites

- This course is intended for experienced Oracle SQL developers or Oracle DBAs who require a thorough understanding of Serial SQL execution.
- A good working knowledge and understanding of SQL statements is assumed.
- The following prior training for Oracle Database 11g is recommended: *Introduction to SQL* course or equivalent experience

## Course Schedule

- Day 1:
  - 1. Course Introduction
  - 2. Introduction to SQL Tuning
  - 3. Using SQL Trace Facility & TKPROF
  - 4. Using Basic Techniques
  - 5. Optimizer Fundamentals
- Day 2:
  - 6. Understanding Serial Execution Plans
  - 7. Optimizer Access Paths
  - 8. Optimizer Join Operations
  - 9. Optimizer Other Operators
- Day 3:
  - 10. Optimizer Statistics
  - 11. Using Bind Variables
  - 12. SQL Plan Management
  - 13. Workshop

## Activities

This course includes three types of activities to help you understand the concepts:

- Quizzes test your knowledge of the important concepts in each chapter.
- Practices reinforce your learning through guided, hands-on practices.
- Workshops give you an opportunity to practical experience through problem-solving workshops.

## About You

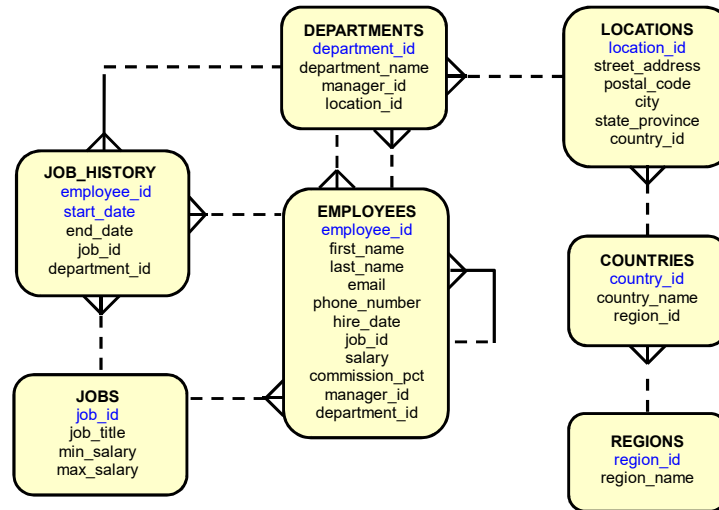
To ensure that the class is customized to meet your specific needs and to encourage interaction, answer the following questions:

- Which organization do you work for?
- What is your role in your organization?
- What is your level of SQL tuning expertise?
- What Oracle versions do you use?
- What do you hope to learn from this class?

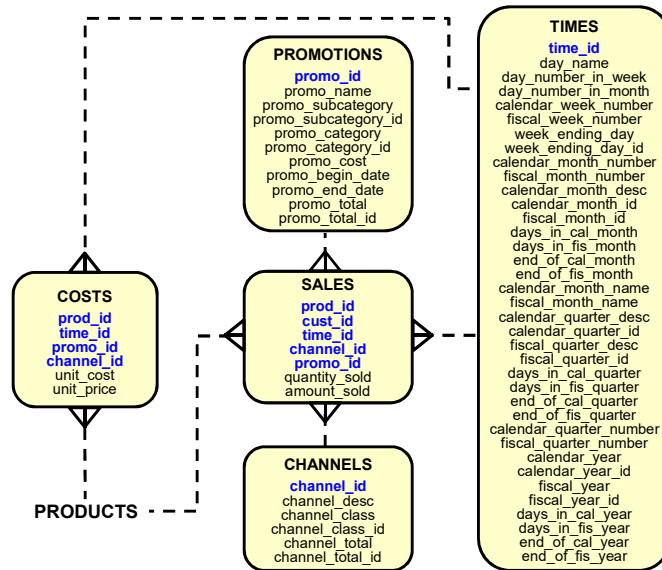
## Sample Schemas Used in the Course

- Sales History (SH) schema
- Human Resources (HR) schema

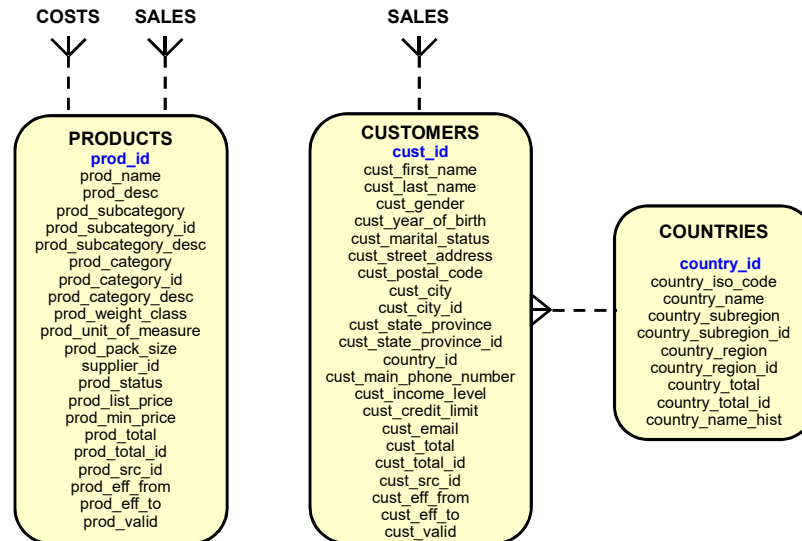
## Human Resources (HR) Schema



## Sales History (SH) Schema

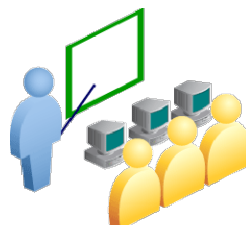


## Sales History (SH) Schema



## Class Account Information

- Your account IDs are **sh** and **hr**.
- The password matches your account ID.
- Each machine has a stand-alone installation of Oracle Database 11g, Enterprise Edition for Linux, with access to the **SH** and **HR** sample schemas.



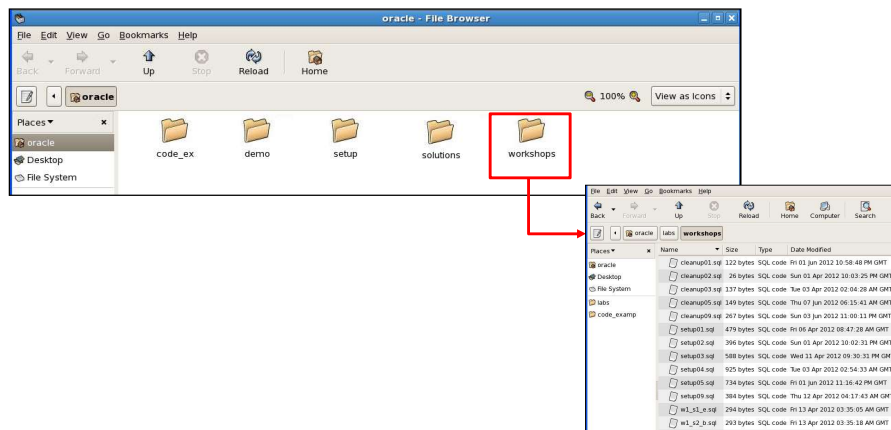
## SQL Environments Available in the Course

This course setup provides the following tools for you to execute SQL statements:

- Oracle SQL\*Plus
- Oracle SQL Developer
- Oracle Enterprise Manager (EM)

## Workshops, Demo Scripts, and Code Example Scripts

The workshop scripts, demo scripts, and code example scripts and solutions are available to you.



## **Appendixes in the Course**

- Appendix A: SQL Tuning Advisor
- Appendix B: SQL Access Advisor
- Appendix C: Oracle Database Architecture