1

Introduction

Objectives

After completing this lesson, you should be able to:

- Explain the course objectives
- Describe the course schedule
- Describe the evolution of Oracle Database
- Describe Enterprise Cloud Computing
- Describe the `HR` schema

Course Objectives

After completing this course, you should be able to:

- Describe Oracle Database architecture
- Configure the database to support your applications
- Manage database security and implement auditing
- Implement basic backup and recovery procedures
- Move data between databases and files
- Employ basic monitoring procedures and manage performance
- Manage resources and automate tasks
- Work with Oracle Support

ORACLE

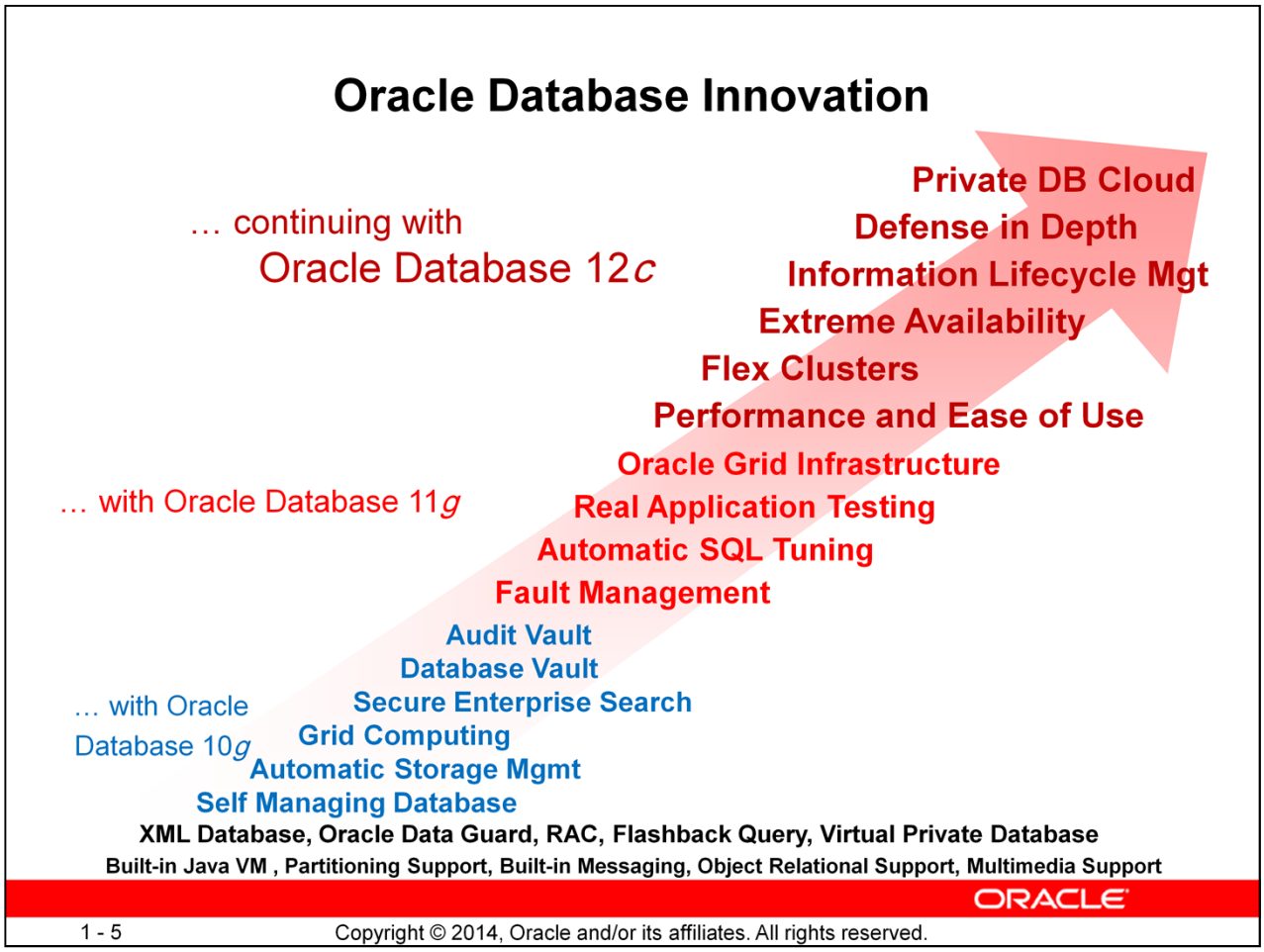
In this course, you learn how to administer Oracle Database 12*c* Release 1.

You also configure the database to support an application and perform tasks such as creating users, defining storage structures, and setting up security. This course uses a fictional application. However, you perform all the core tasks that are necessary for a real application.

Database administration does not end after you configure your database. You also learn the basics of protecting it by designing a backup and recovery strategy. In addition you learn how to monitor the database to ensure that it operates smoothly.

Suggested Schedule

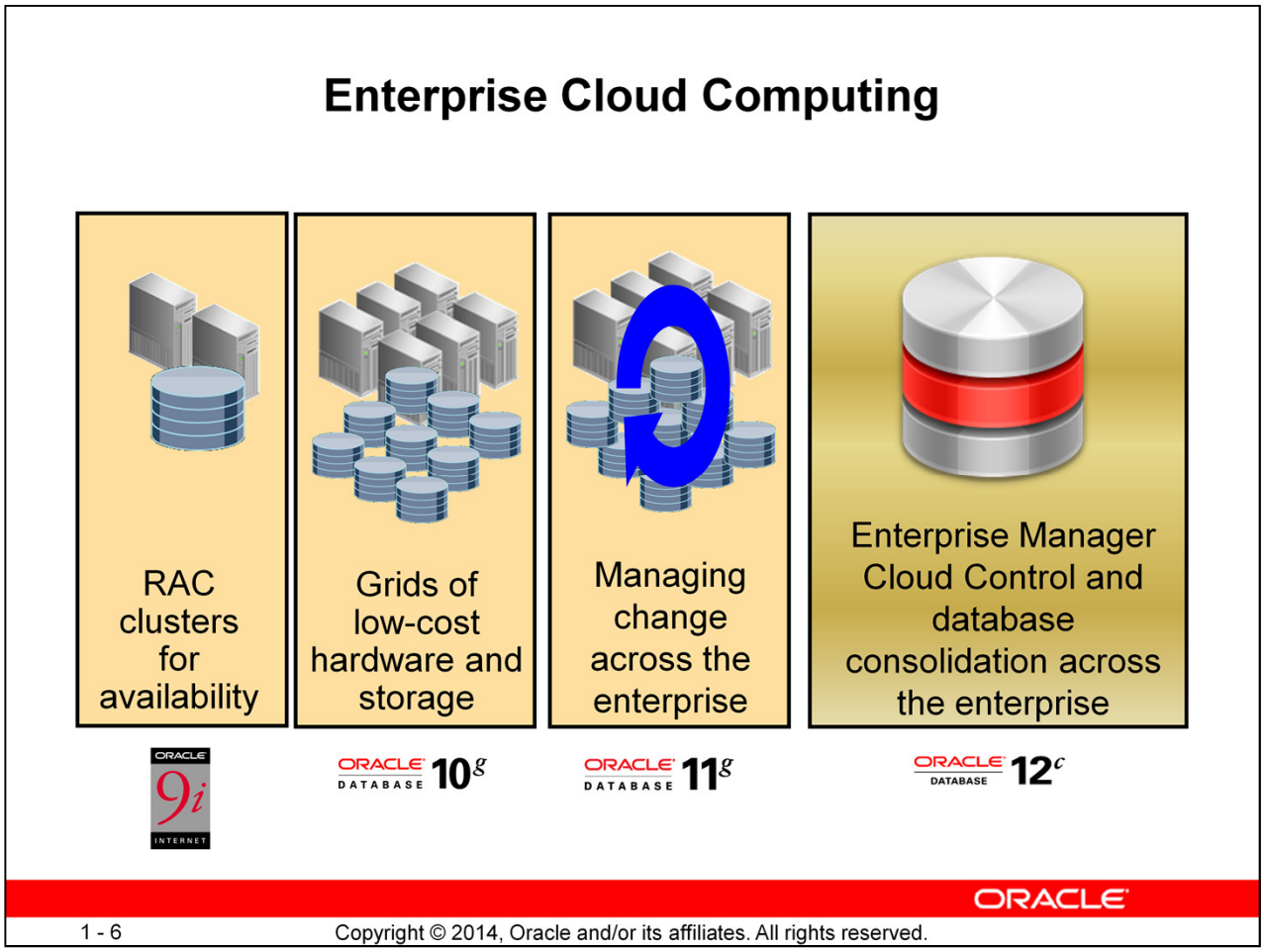
Day	Lessons
1	1. Introduction 2. Exploring the Oracle Database Architecture 3. Oracle Database Management Tools 4. Managing the Database Instance
2	5. Configuring the Oracle Network Environment 6. Administering User Security 7. Managing Database Storage Structures 8. Managing Space 9. Managing Undo Data
3	10. Managing Data Concurrency 11. Implementing Oracle Database Auditing 12. Backup and Recovery Concepts 13. Backup and Recovery: Configuration
4	14. Performing Database Backups 15. Performing Database Recovery 16. Moving Data 17. Performing Database Maintenance
5	18. Managing Performance 19. Managing Performance: SQL Tuning 20. Using Resource Manager 21. Using Oracle Scheduler



As a result of its early focus on innovation, Oracle has maintained the lead in the industry with a large number of trend-setting products.

Some of the marquee areas in the Oracle Database 12*c* release are the following:

- Private Database Cloud
- Defense in Depth including Oracle Data Redaction, Real Application Security
- Information Lifecycle Management (ILM), which includes hot/cold data classification, declarative compression and tiering, In-database Archiving, and Valid-Time Temporal
- Flex Clusters
- Extreme Availability, which includes Data Guard Far-Sync and Application Continuity
- Lower Cost Migrations
- Performance and Ease of Use, which includes “just-in-time” optimizations, attribute clustering, and zone maps for Exadata only



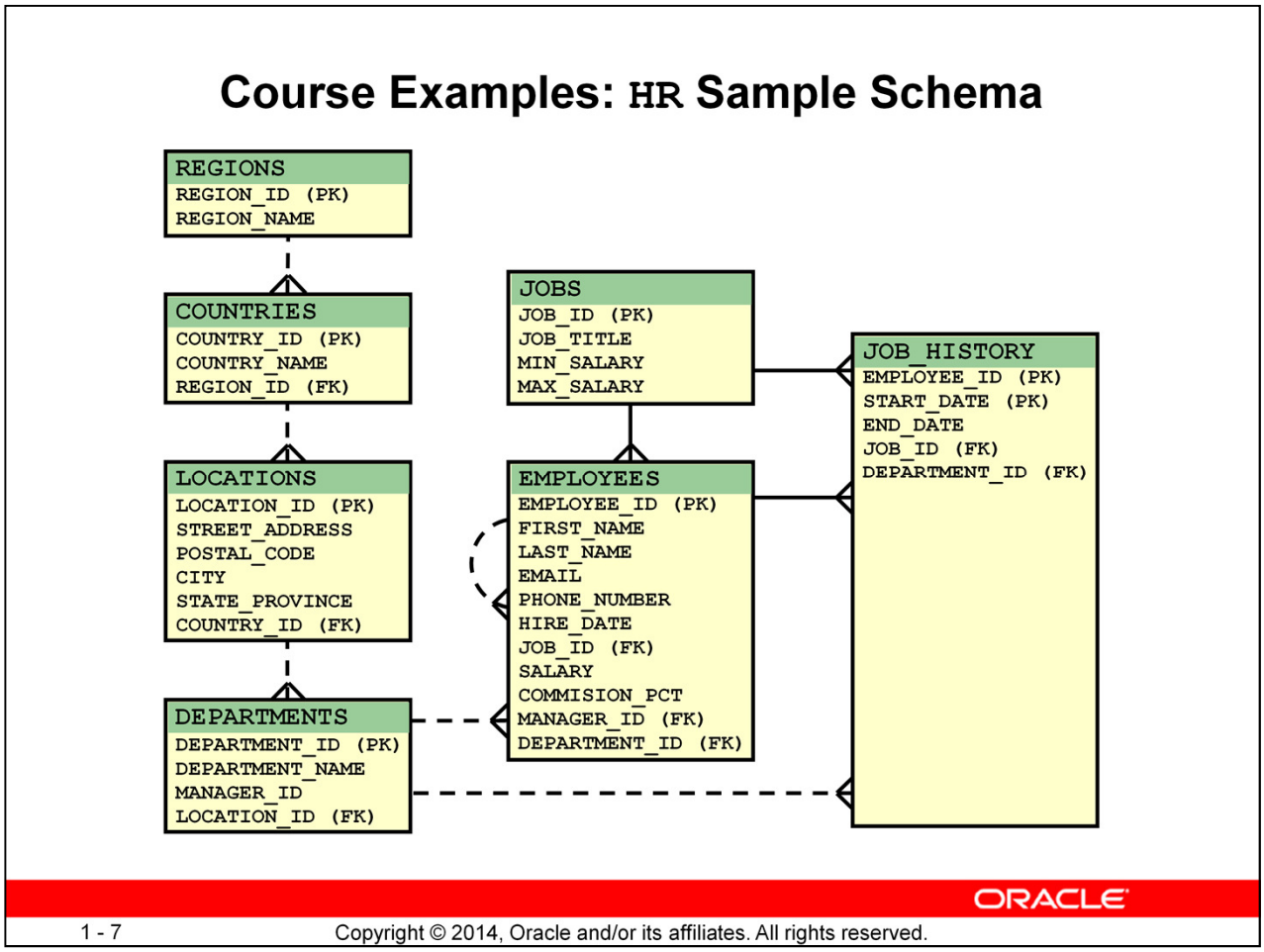
Oracle Database 10*g* was the first database management system designed for grid computing.

Oracle Database 11*g* consolidates and extends Oracle's unique ability to deliver the benefits of grid computing, transforming data centers from silos of isolated system resources to shared pools of servers and storage.

Oracle Database 12*c* and Enterprise Manager Cloud Control are designed for cloud computing. Cloud computing creates a complete, pre-integrated, off-the-shelf private cloud solution that allows you to quickly transform the enterprise data center into a private cloud.

The key benefits are the following:

- Reduce server sprawl and improve CPU utilization by consolidating on fewer servers.
- Reduce the amount of time a DBA spends installing and configuring databases, by automating deployment of standard database configurations.
- A single console manages the entire Cloud life cycle—plan, set up, deliver, and operate.
- Prevent resource hogging by setting quotas for individual users.
- Forecast future resource needs by analyzing trending reports.
- Compute chargeback based on performance and configuration metrics.



The examples used in this course are from a human resources (HR) schema, which can be created as part of the starter database.

The following are some principal business rules implemented in the HR schema:

- Each department may be the employer of one or more employees. Each employee may be assigned to only one department.
- Each job must be a job for one or more employees. Each employee must be currently assigned to only one job.
- When an employee changes his or her department or job, a record in the JOB_HISTORY table records the start and end dates of the past assignments.
- JOB_HISTORY records are identified by a composite primary key (PK): the EMPLOYEE_ID and the START_DATE columns.

Notation: PK = Primary Key, FK = Foreign Key

Solid lines represent mandatory foreign key (FK) constraints and dashed lines represent optional FK constraints.

The EMPLOYEES table also has an FK constraint with itself. This is an implementation of the business rule: Each employee may be reporting directly to only one manager. The FK is

optional because the top employee does not report to another employee.

Summary

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