

Oracle 10g Security and Auditing for DBAs

Course Summary

Description

This class teaches database administrators how to use the built-in features of the Oracle Database to secure the database and audit activity on the database.

Objectives

At the end of this course, students will be able to:

- Secure access to the database; prevent unauthorized access to the database
- Restrict user's ability to manage the database
- Implement secure password schemes
- Restrict and audit DBA-level access to the database
- Control access to database objects with object level privileges
- Use roles to distribute privileges and simplify privilege management
- Implement row-level security with Virtual Private Database and Fine-Grained Access Control
- Audit access to the database and database objects with the built-in auditing capabilities of Oracle 10g
- Implement Fine-Grained Auditing, including Oracle 10g DML support
- Implement auditing with PL/SQL triggers
- Use the Logminer utility for auditing
- Encrypt column data with Oracle 10g Transparent Data Encryption
- Encrypt RMAN backup sets

Topics

- Security Basics
- Oracle Networking
- Creating and Managing Users
- Password Management
- Securing Administrative Users
- Managing System Privileges
- Managing Object Privileges
- Managing Roles
- Fine Grained Access Control
- Basic Auditing
- Auditing with Triggers
- Fine Grained Auditing
- Auditing with Logminer
- Encryption

Audience

This course is designed for Database Administrators.

Prerequisites

Students must have experience working with Oracle to successfully master the information in this course. A solid understanding of Oracle SQL and familiarity with SQL*Plus and PL/SQL is required.

Duration

Two days

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Course Outline

- I. Security Basics**
 - A. Patching the Database Software
 - B. Locking User Accounts
 - C. Listener Password
 - D. Revoke Unnecessary Privileges
 - E. Reporting on Privileges
- II. Oracle Networking**
 - A. Securing the Listener
 - B. Using Connection Manager as a Firewall
- III. Creating and Managing Users**
 - A. Creating New Users
 - B. Introduction to User Privileges
 - C. Default and Temporary Parameters
 - D. Querying the Data Dictionary
 - E. Altering a User
 - F. Dropping a User
- IV. Password Management**
 - A. Password Aging
 - B. Manual Password Expiration
 - C. Account Locking
 - D. Password History
 - E. Password Complexity
- V. Securing Administrative Users**
 - A. The SYS User
 - B. The SYSTEM User
 - C. Creating New Users
 - D. Intro to User Privileges
 - E. DBA Role
 - F. Local Connections
 - G. Remote Connections
 - H. Creating a Password File
 - I. Password File Entries
 - J. Create New Administrators
- VI. Managing System Privileges**
 - A. Security Basics
 - B. Privilege Types
 - C. System Privileges
 - D. ANY-Type Privileges
 - E. PUBLIC Keyword
 - F. ADMIN OPTION
 - G. Revoking System Privileges
 - H. SESSION_PRIVS
 - I. DBA_SYS_PRIVS
- VII. Managing Object Privileges**
 - A. Grant Object-Level Privileges
 - B. Insert / Update Privileges
 - C. WITH GRANT OPTION
 - D. Revoking Object Privileges
 - E. DBA_TAB_PRIVS
- VIII. Managing Roles**
 - A. Role Concepts
 - B. Predefined Roles
 - C. Giving Privileges To Roles
 - D. WITH ADMIN OPTION
 - E. Granting Role to Role
 - F. Role Privileges
 - G. PL/SQL and Roles
 - H. Revoking Roles
 - I. Dropping Roles
 - J. Data Dictionary Summary
 - K. Miscellaneous Role Topics
- IX. Fine Grained Access Control**
 - A. FGAC and VPD Concepts
 - B. Virtual Private Database
 - C. VPD Policy Types
 - D. Column Level VPD

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Course Outline (cont'd)

X. Basic Auditing

- A. Lesson Objectives
- B. Auditing Technique Overview
- C. Enabling the Audit Trail
- D. Auditing SYSDBA
- E. Auditing SYSDBA Tips
- F. AUDIT Statement
- G. Auditing Logons
- H. Monitoring Logon Attempts
- I. Audit System Grants
- J. Monitor System Grants
- K. Object-Level Auditing
- L. Monitoring Object Activity
- M. 10g Enhancements - Additional Data Capture (10g)
- N. The SYSAUD\$ Table

XI. Auditing with Triggers

- A. DML Auditing
- B. System Event Auditing

XII. Fine Grained Auditing

- A. Create FGA Policy
- B. Display FGA Activity
- C. Fine Grained Auditing of DML (10g)
- D. 10g Extended Audit Trail
- E. 10g Common Audit Trail

XIII. Auditing with Logminer

XIV. Encryption

- A. Encryption Concepts
- B. Oracle Support
- C. The Obfuscation Toolkit
- D. 10g Encryption with DBMS_CRPTO
- E. Transparent Data Encryption (Release 2)
- F. Encrypting RMAN Backups