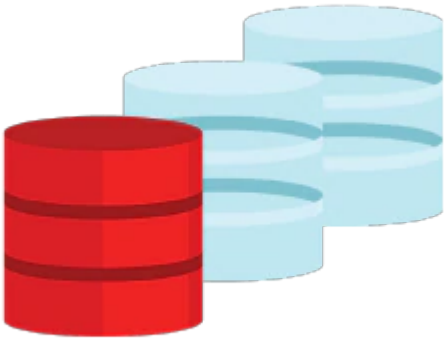

Oracle Database Security: Preventive Controls

In the Oracle Database Security: Preventive Controls course, students learn how they can use Oracle Database Security products and technologies to meet the security, privacy and compliance requirements of their organization.

The current regulatory environment of the Sarbanes-Oxley Act, HIPAA, the UK Data Protection Act, and others, requires better security at the database level. Students learn how to secure the access to their databases and how to use the Oracle Database Security products and technologies that enhance data access and confidentiality. The course provides suggested Oracle solutions for common problems.

Learn To:

- Choose Oracle Database Security products and technologies to meet security requirements.
- Secure the database access by database or enterprise users with basic or strong authentication such as SSL, Kerberos and Radius.
- Protect against database bypass by using Transparent Database Encryption.
- Use Oracle Wallets and Oracle Key Vault to manage encryption keys.
- Discover sensitive columns such as Credit Card Numbers by using Application Data Modeling.
- Minimize sensitive data proliferation to test/dev environments by using Data Masking.
- Minimize storage costs in test/dev environments by using Data Subsetting.
- Reduce sensitive data exposure in applications by using Data Redaction.
- Understand and use Oracle Database Vault.

Benefits To You

This course discusses the following security features of the database: authentication, data access control including user authorizations by using privileges and roles, data confidentiality including Data Redaction, Oracle Data Masking and Subsetting, Transparent Sensitive Data Protection, encryption at the column, tablespace and file levels by using Transparent Data Encryption. This course discusses the use of the Oracle Key Vault to centrally manage keys across the enterprise. Oracle Database Vault is used to enforce Separation of Duties at the DBA level.

Hands-on practices and available demonstrations help students learn how to use most of the features of Oracle Database 12c to secure their data center, by using Oracle Enterprise Manager Cloud Control or other simple tools such as SQL*Plus.

Prerequisites

Suggested Prerequisite

- Use Oracle Data Pump export and import and Perform RMAN back
- Use Flashback Data Archive and Create PL/SQL procedures
- Familarity with SQL*Plus, SQL*Developer
- Familarity with Oracle Enterprise Manager Cloud Control

Required Prerequisite

- Introduction to Oracle Database Security Ed 1
- Create and manage users, roles, and privileges
- Create and manage tables and tablespaces
- Create PL/SQL procedures

Audience

- Administrator
- Database Administrator
- Network Administrator
- Systems Administrator

Objectives

- Configure and use Transparent Data Encryption
- Understand and use Oracle Key Vault
- Understand Oracle Data Redaction
- Understand and use Oracle Data Masking and Subsetting
- Understand security risks and identify appropriate Oracle solutions
- Configure general authentication and authorization
- Understand and implement Global Users
- Set up and maintain a simple wallet
- Install and use Oracle Database Vault
- Configure and use Transparent Sensitive Data Protection

Topics

- Introduction
    - Course Objectives
    - Related courses and where this fits
    - Course Schedule and Appendices
- Using Basic and Strong User Authentication
    - Basic Authentication
    - Strong Authentication
    - Database Link Passwords Protection
    - Security of Roles
- Configuring Global User Authentication

    - About Enterprise User Management (EUS)
    - EUS and LDAP Integration
- Using Proxy Authentication
    - Security Challenges of Three-Tier Computing
    - Proxy Authentication Solutions
- Encryption Concepts and Solutions
    - Concepts
    - Solutions
    - Oracle Solutions
- Using Built-In Encryption in Applications
    - Usage
- Using Transparent Data Encryption (TDE)
    - Overview
    - The Master Keys and the Keystore
    - Hardware Keystore
    - Encryption
- Database Storage Security
    - RMAN and OSB Backups
    - RMAN Encryption Modes
    - Data Pump Export and Import of Encrypted Data
- Introduction to Oracle Key Vault
    - What is Oracle Key Vault?
    - Using Oracle Key Vault
- Installing Oracle Key Vault
    - Installation
    - Endpoints
- Using Oracle Key Vault
    - Reviewing or refreshing prerequisite knowledge
    - Contrasting Oracle Wallets and OKV Virtual Wallets
- Administering Oracle Key Vault
    - Roles in detail
    - Best practice tips for Oracle Key Vault
- Automated Sensitive Data Discovery
    - Overview
    - Application Data Modeling
    - Managing Application Data Models
- Oracle Data Masking and Subsetting overview
    - Overview
- Masking Sensitive Data in Non-Production Environments
    - Exploring Data Masking Format Library
    - Data Masking Transformations
- Subsetting Data
    - Exploring Data Subsetting definitions
- Managing Data Masking and Subsetting
    - Administering Data Masking and Subsetting
    - Heterogeneous masking and subsetting
    - Best Practices
- Oracle Advanced Security - Data Redaction
    - Need to redact or dynamically mask data
    - Implementing Data Redaction
    - Data Redaction usage guidelines
- Oracle Transparent Sensitive Data Protection (TSDP)
    - TSDP Implementation
- Oracle Database Vault Overview

    - Understand Database Vault Controls
    - What is a Realm? A Rule Set? A Command Rule? A Secure Application Role?
    - What are Factors and Identities? Component Relationships and Evaluation?
    - Database Vault Effects and Example
    - Software Overview: API, Views, and Integration with Other Oracle Products
- Configuring Database Vault
    - Configuring Database Vault
    - Database Vault Roles and Schema
    - What to Expect After You Enable Database Vault
    - Securing Data in Multitenant Environments
    - Configuring Database Vault Users in Cloud Control 12c
- Analyzing Privileges
    - Privilege Analysis Overview and Features
    - How Does it Work?
    - What are The Types of Analysis, Tools, and Prerequisites?
    - Managing Privilege Analysis Policies
    - Use Cases