Oracle Database 12c: Security

Duration: 5 Days

What you will learn

In this Oracle Database 12c: Security training, you'll learn how you can use Oracle Database features to meet the security, privacy and compliance requirements of your organization. Explore new concepts with expert Oracle University instructors.

Learn To:

Understand Oracle security solutions and how they can help address your security requirements.
Configure strong authentication for database users using PKI and Kerberos.
Control data access using virtual private database and Oracle Label Security.
Analyze application privileges and reduce the attack surface using Oracle Database Vault Privilege Analysis.
Reduce risk of data exposure using Oracle Advanced Security Data Redaction, Transparent Data Encryption, and Oracle Data Masking.
Audit activity inside the database using policy and condition based unified auditing.
Configure network encryption to protect information in transit.
Audit activity inside the database using policy and condition based unified auditing.
Protect against application bypass using Oracle Database Vault Realms.

Benefits to You

The current regulatory environment of the Sarbanes-Oxley Act, HIPAA, the UK Data Protection Act and others requires better security at the database level. Enrolling in this course will teach you how to securely access your databases and use the database features that enhance data access and confidentiality. This course provides suggested Oracle solutions for common problems.

Security Features

This course discusses the following security features of the database: authentication, data access control (including user authorizations using privileges and roles), Privilege Analysis, Virtual Private Database and Oracle Label Security. You'll also explore data confidentiality including, including Data Redaction, Oracle Data Masking, Transparent Sensitive Data Protection and encryption at the column, tablespace and file levels using Transparent Data Encryption.

Explore Auditing

Instructors will discusses auditing using different features like unified auditing or fine-grained audit. This includes some of the Oracle Network security topics, like securing the listener and restricting connections by IP address.

Gain Hands-On Experience
Through participating in hands-on practices and available demonstrations, you'll learn how to use most of the features of Oracle Database 12c to secure your data center. You'll also develop a deeper familiarity with Oracle Enterprise Manager Cloud Control or other simple tools like SQL*Plus.

Live Virtual Class Format

A Live Virtual Class (LVC) is exclusively for registered students; unregistered individuals may not view an LVC at any time. Registered students must view the class from the country listed in the registration form. Unauthorized recording, copying, or transmission of LVC content may not be made.

Audience
Database Administrators
Network Administrator
Security Administrators
Security Compliance Auditors
Support Engineer
System Analysts

Related Training

Required Prerequisites
Good knowledge of Oracle Database
Oracle Database 12c: Administration Workshop

Suggested Prerequisites
Administer listeners
Create and manage users, roles, and privileges
Perform RMAN backup and recovery
Use Oracle Data Pump export and import

Course Objectives
Analyze any security risks of their organization
Find appropriate Oracle solutions to meet the security, privacy and compliance requirements of their organization
Find solutions to secure database access through the network
Configure appropriate authentication for the database or enterprise users in the organization
Control data access and integrity in their organization using the appropriate feature or option or product like privileges or
Oracle Label Security

Ensure data confidentiality using an encryption solution like Transparent Data Encryption, or Data Redaction or Oracle Data Masking

Audit user actions using any of the auditing features like unified auditing

Course Topics

Introduction
Course Objectives
Course Schedule and Appendices

Understanding Security Requirements
Fundamental Data Security Requirements
Security Risks
Exploits
Techniques to Enforce Security

Choosing Security Solutions
Network Access Control
Database Access Control
Data Access Control
Data Confidentiality
Data Integrity
Audit
Compliance

Implementing Basic Database Security
Database Security Checklist
Reducing Administrative Effort
Principle of Least Privilege
Objects Protection

Securing Data on the Network
Network Access Control
Listener Security
Listener Usage Control

Using Basic and Strong User Authentication
Basic Authentication
Strong Authentication
Database Link Passwords Protection

Configuring Global User Authentication
About Enterprise User Management (EUS)
EUS and Oracle Internet Directory Integration

Using Proxy Authentication
Security Challenges of Three-Tier Computing
Proxy Authentication Solutions

Using Privileges and Roles
Separation of Duties
Roles Management
Managing Security for Definer's Rights and Invoker's Rights
Managing RMAN Virtual Private Catalogs

Using Privilege Analysis
Privilege Analysis Flow
Privilege Analysis Implementation

Using Application Contexts
Description of Application Context
Application Context Implementation

Implementing Virtual Private Database
Fine-Grained Access Control and VPD
FGAC Policies Management
VPD Policies Management

Implementing Oracle Label Security
Access Control Overview
Oracle Label Security Registration
Oracle Label Security Policies Management

Redacting Data
Redacting Data
Masking Policies Implementation

Using Oracle Data Masking
Overview
Data Masking Definition Implementation
Data Masking Process

Using Transparent Sensitive Data Protection
TDPS Implementation

Encryption Concepts and Solutions
Concepts
Solutions
Oracle Solutions

Encrypting with DBMS_CRYPTO Package
Usage

Using Transparent Data Encryption
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

Using Unified Audit
Auditing Overview
Unified Audit Management
Specific Audit Situations

Using Fine-Grained Audit
Comparison with Unified Auditing
Overview
FGA Implementation