Oracle Database 19c: Data Encryption LVC

Oracle Database

DURATION	MODULES	COURSE CODE
1 Days	4 Lectures	—

Course Overview

The course covers the following topics: Managing Endpoints and Oracle Wallets Encryption Key Vault and Transparent Data Encryption Performing Oracle Key Vault Administrative Tasks

What You Will Learn

- I Introduction
- Objectives I-2

Managing Endpoints and Oracle Wallets

- Objectives
- What You Already Know About Endpoints
- Endpoints
- Endpoint Administrators
- Managing Oracle Key Vault Endpoints
- Enrolling, Provisioning, and Using an Endpoint
- Types of Enrollment
- Enrolling and Provisioning an Oracle Key Vault Endpoint
- What You Already Know About Oracle Wallets
- What You Already Know About Encryption
- Creating and Opening the Keystore
- Reviewing Transparent Data Encryption
- Creating TDE Encrypted Test Data
- Training Environment and Workflow
- What Is a Virtual Wallet?
- Managing Security Objects
- Uploading and Downloading an Oracle Wallet to and from Oracle Key Vault
- Downloading an Oracle Wallet
- Summary
- Practice 1: Overview

Encryption

- Learning Objectives
- Need for Encryption
- Encryption: Overview
- Encryption Is Not Access Control
- Access by Privileged Users
- What problems does encryption solve?
- Cost of Encryption
- What to Encrypt
- Data Encryption: Challenges
- Encrypting Data in Motion
- Native Network Encryption
- Configuring Network Encryption and Data Integrity
- TLS Encryption
- Using SSL
- How SSL Works in an Oracle Environment: The SSL Handshake
- SSL Authentication Process
- Encryption Wallets
- Transparent Data Encryption
- Components of TDE
- Column and Tablespace Level Encryption
- Creating Your Own TDE Master Encryption Key
- Encryption Key Management: Key Generation
- Encryption Key Management: Key Modification and Transmission
- Encryption Key Management: Storage
- Storing the Key in the Database
- Storing the Key in the File System
- Letting the User Manage the Key
- SYSKM Administrative Privilege
- Encrypting the Data Dictionary
- Conversion of Tablespaces: ONLINE Encryption
- Encryption Algorithms
- Automatic Tablespace Encryption
- Oracle Key Vault
- Summary
- Practice 2: Overview

Key Vault and Transparent Data Encryption

- Objectives
- Benefits of Using Oracle Key Vault
- Benefits of Using Oracle Transparent Data Encryption
- Reviewing Hardware Security Modules
- Separation of Duties
- Using the Online Master Key with Oracle Key Vault

- Using Security Objects
- Summary
- Practice 3: Overview

Performing Oracle Key Vault Administrative Tasks

- Objectives
- Administrative Tools
- Performing Tasks as System Administrator
- Backing Up and Restoring Data for Oracle Key Vault
- Performing Tasks as Key Administrator
- Performing Tasks as Audit Manager
- Oracle Key Vault Management Reports
- Best Practices for Oracle Key Vault
- Summary
- Practice 4: Overview