Oracle Unified Directory 12c: Administration Ed 2 LVC

Oracle Database

DURATION	MODULES	COURSE CODE
5 Days	**13 Lectures**	**—**

Course Overview

Oracle Unified Directory (OUD) is an enterprise-class directory solution for robust identity management deployments with its own storage, proxy, synchronization and virtualization capabilities. Targeted at Directory Administrators, Security Administrators, Support Engineers, and Web Administrators, this course covers the features, architecture, installation, and configuration of OUD 12c for storage, proxy, replication, and virtualization. The course also covers how to configure OUD security and synchronize OUD with other third-party directories by using DIP and teaches how to integrate Enterprise User Security (EUS) with Microsoft Active Directory (AD).

What You Will Learn

Course Overview

- Course Objectives
- Target Audience
- Course Schedule
- Practice Environment Topology
- Additional Information

Introduction to OUD

- Objectives
- Identity Management Overview
- Functional Areas of Oracle Identity Management
- Products: Directory Services
- Products: Identity Governance
- Products: Access Management
- Oracle Unified Directory
- Oracle Unified Directory: Key Features
- Oracle Unified Directory: Functional Aspects
- Technical Differences: OUD and OID
- OID Compared to OUD

- Summary

Installing and Configuring OUD

- Objectives
- Hardware and Software Requirements
- Hardware Requirements
- Software Requirements
- Oracle Unified Directory Architecture
- OUD Architecture
- Oracle Unified Directory Components
- Oracle Unified Directory: Working
- Install Oracle Unified Directory Software
- Installing OUD
- Installing Oracle Unified Directory 12c: GUI Installation
- Installing Oracle Unified Directory 12c: Silent Installation
- Configure OUD Directory Server Instance
- OUD 12c Directory Server Setup and Configuration
- Running the oud-setup Utility Without Using the Setup Wizard
- Short-Form and Long-Form Options
- Using Ports 389 and 636 for LDAP Connections
- Install Oracle Unified Directory Services Manager
- Oracle Unified Directory Services Manager (OUDSM): Overview
- Prerequisite Software to Run OUDSM on WLS
- Configuring a WLS Domain for OUDSM
- Using OUDSM to Access Multiple OUD Instances
- Uninstall Oracle Unified Directory
- Uninstalling Oracle Unified Directory
- Uninstalling Oracle Unified Directory Server Instances
- Uninstalling the OUD 12c Software
- Summary

OUD: Basic Administration

- Objectives
- OUD Tools and Controlling OUD Instance
- OUD Administration Tools
- Starting and Stopping Directory Servers on Linux and UNIX Systems
- Enabling and Disabling Directory Servers as Microsoft Windows Services
- Manage OUD Data
- Importing Data
- Importing Partial Data
- Exporting Data
- Exporting Partial Data
- LDAP Client Tools
- Managing Entries: LDAP Commands
- Managing Entries: OUDSM

- Indexing: Overview
- Determining Whether a Search Is Indexed
- Indexing Directory Data
- Work with OUD Data Attributes
- Unique Attribute Plug-In
- Configuring the Unique Attribute Plug-In
- Virtual Attributes
- Creating Virtual Attributes
- Configure Referrals
- Referrals
- Configuring the Referral List Manually
- Smart Referrals
- Manage OUD Users and Groups
- Managing User Accounts
- Managing User Passwords
- Root Users
- Managing Root Users
- Groups
- Static Groups
- Dynamic Groups
- Virtual Static Groups
- Nested Groups
- Referential Integrity Plug-In
- Manage OUD LDAP Schema
- Directory Schema
- Extending Schema
- Managing Attribute Types
- Managing Object Classes
- Viewing Syntaxes and Matching Rules
- Quiz
- Summary

OUD Monitoring and Logging

- Objectives
- Monitoring Overview
- Monitoring
- Monitoring: Overview
- Manage Monitor Providers
- Manage Alert Handlers
- Alert Handlers
- Managing Alert Handlers: dsconfig
- Creating an Email Alert Handler: dsconfig
- Managing Alert Handlers: OUDSM
- View Monitoring Data in cn=monitor
- Monitoring Using the cn=monitor Subtree

- Monitoring Using the cn=monitor Entry: Example
- Logging Overview
- Logging
- Log Files: Overview
- Log File Format: Standard Versus ODL
- OUD Log Files
- Manage Logging Providers
- Enabling OUD Logging in OUDSM
- Enabling OUD Logging by Using CLI
- Viewing OUD Logging Status by Using CLI
- OUD Logging Status Output
- Viewing OUD Log Files
- Log Files Retention and Rotation Policy Example: Audit Logger
- Logging: Audit Example
- Logging: Access Example
- Logging: Debug Example
- Logging: Errors Example
- Summary

OUD Security

- Objectives
- Access Control Model
- Access Control
- Access Control: Overview
- ACI Structure
- Access Control Instruction
- ACI Evaluation
- ACI Structure
- ACI Syntax for Targets and Bind Rules
- ACI Syntax Example
- Securing and Controlling Access to Directory Data
- Managing Global ACIs: Overview
- Managing Global ACIs
- Managing Non-Global ACIs
- Adding and Removing a Non-Global ACI
- Managing ACIs with OUDSM
- Password Policies
- Password Policies: Fundamentals
- Configuring Password Policies with dsconfig
- Creating a New Password Policy
- Password Policy as an LDAP Subentry
- Defining Password Policy as an LDAP Subentry
- Configuring Password Policies by Using OUDSM
- Password Validators and Password Generators
- Password Validators

- Managing Password Validators
- Password Generators
- Enabling Secure LDAP Connectivity
- Prepare OUD SSL Artifacts
- Configure and Test OUD LDAPS Connection Handler
- Configuring SSL for OUD
- Attribute Encryption
- Attribute Encryption: Fundamentals
- Attribute Encryption: Configuration Parameters
- Summary

Deploying OUD Replication Topology

- Objectives
- OUD Replication Topologies
- Replication Topology
- Servers in a Replication Topology
- Single Data Center, Two Directory Servers, Two Replication Servers
- Single Data Center, Five Directory Servers, Two Replication Servers
- Two Data Centers, Four Directory Servers, Four Replication Servers
- Enabling and Initializing OUD Replication Servers
- Enabling Replication: oud-setup
- Defining the Global Administrator
- Specifying Base DNs
- Enabling Replication: dsreplication enable
- Initializing Directory Data for Replicas: oud-setup
- Initializing Directory Data for Replicas: dsreplication
- Initializing Directory Data for Replicas: backup and restore
- Initializing Configuration Data for Replicated Servers
- Modifying Existing Replication Configuration
- Retrieving the Replication Domain Name
- Configuring Replication Groups
- Configuring Replication Groups: Example
- Configuring Assured, Fractional, and Isolated Replication
- Replication: Loose Consistency Model
- Assured Replication: Providing Tighter Consistency
- Configuring Assured Replication: Safe Data Mode
- Configuring Assured Replication: Safe Read Mode
- Fractional Replication
- Configuring Fractional Replication
- Isolated Replication
- Configuring Isolated Replication
- Testing and Tuning Replication
- Determining Replication Status
- Verifying Replication Success
- Tuning Replication

- Using OUDSM to Configure Replication
- Using OUDSM to Configure Data Replication
- Manage Configuration of an Existing Replication Server
- Manage Configuration for a Replicated Suffix
- Replication Configuration Wizard
- Creating a New Topology
- Managing an Existing Replication Topology
- Quiz
- Summary

Oracle Directory Integration Platform

- Objectives
- DIP Overview and Architecture
- Oracle Directory Integration Platform: Overview
- Synchronization
- Provisioning
- DIP Architecture
- DIP Synchronization Service
- Synchronization Service: Operations
- Connectors
- Directory Synchronization Profiles
- Default Synchronization Profiles
- Synchronization Agent
- DIP Installation and Configuration
- Administering Directory Integration Platform
- Command-Line Tools for Administering DIP
- Using FMW Control to Administer and Monitor DIP
- Starting and Stopping DIP
- Viewing DIP Status
- Viewing DIP Registration Information
- Oracle Directory Integration Platform Server Configuration
- Viewing DIP Logs
- DIP Security Features
- SSL and DIP
- Credential Store
- Configuring DIP for SSL Mode 2
- Integration Profile Authentication
- Access Control for DIP Server and Profiles
- Troubleshooting DIP
- DIP Tester
- Quiz
- Summary

Synchronizing Directory Data with OUD

- Objectives

- When to Use Oracle Directory Integration Platform
- Benefits of Using DIP with OUD
- Software Requirements for Running DIP
- Oracle Directory Integration Platform Typical Topologies
- Configuring OUD as the DIP Back-End Directory
- Configuring OUD as the DIP Back End: Prerequisites
- Creating a WebLogic Domain to Configure DIP
- Configuring OUD as the DIP Back End: dipConfigurator
- dipConfigurator: ACIs
- Synchronizing OUD as Back-End Directory with OID
- Synchronizing OUD and OID
- Synchronization Profiles
- Synchronization Profiles: General
- Synchronization Profiles: Mapping
- Mapping Rules
- Domain and Attribute Mapping Rule Format
- Example Domain Rules:
- Attribute Rules
- Synchronization Profiles: Filtering
- Matching Filters
- Synchronization Profiles: Advanced
- Deregistering a Profile in FMW Control
- Bootstrapping Data into the Oracle Back-End Directory
- Synchronizing OUD as Back-End Directory with MS Active Directory
- Synchronizing from AD to OUD
- OUD Schema Elements for AD
- Synchronizing OUD and AD
- Summary

OUD Proxy Servers

- Objectives
- OUD Proxy Mode Capabilities and Request Routing
- OUD 12c Proxy Server
- Request Routing on OUD 12c Proxy Servers
- Request Routing on OUD 12c Directory Servers
- Request Routing Configuration Object Creation
- Proxy Server Load-Balancing Model
- OUD 12c Proxy Server Load Balancing
- OUD 12c Proxy Server Proportional Load Balancing
- OUD 12c Proxy Server Saturation Load Balancing
- OUD 12c Proxy Server Optimal Load Balancing
- OUD 12c Proxy Server Search Filter Load Balancing
- Proxy Server Data Distribution Model
- OUD 12c Proxy Server Data Distribution
- OUD 12c Proxy Server Numeric Data Distribution

- OUD 12c Proxy Server Lexico Data Distribution
- OUD 12c Proxy Server Capacity Data Distribution
- OUD 12c Proxy Server DN Pattern Data Distribution
- Global Index Catalog
- OUD 12c Proxy Server Setup
- Setting Up an OUD 12c Proxy Server
- Configure a New Proxy Server
- Selecting Load Balancing or Data Distribution as the Proxy Type
- Adding Back-End LDAP Servers for Load Balancing
- Defining Load Balancing Algorithm and Server Weights
- Selecting the Number of Data Distribution LDAP Servers
- Specifying How the Proxy Server Distributes Data
- Defining Global Index Catalog
- Configure OUD 12c Proxy in OUDSM
- Configuring OUD 12c Proxy in OUDSM
- OUDSM Core Configuration
- Testing OUD Proxies
- Testing Load Balancing
- Testing Data Distribution
- Quiz
- Summary

OUD Plug-ins and Extensibility Framework

- Objectives
- Need for Plug-ins and OUD RDBMS Workflow Element
- Need for Plug-Ins
- RDBMS Workflow Element
- RDBMS Workflow Element: Use Cases
- RDBMS Workflow Element: Features
- OUD Plug-in: Overview
- OUD Plug-Ins
- OUD Plug-Ins: Life Cycle
- OUD Plug-Ins: Use Cases
- Introduction to OUD Plug-in API
- OUD Plug-ins: Implementation Points
- OUD Plug-in API: Overview
- Deploying a Sample Plug-In
- Quiz
- Summary

Virtualizing OUD

- Objectives
- Pass-Through Authentication Capabilities
- Pass-Through Authentication Mechanism
- Pass-Through Authentication Workflow Element: Features

- Pass-Through Authentication Configuration Model
- Configuring Pass-Through Authentication
- OUD Virtualization Mechanism
- Difference Between Join and Distribution
- Join Workflow Element
- Features of the Join Workflow Element
- ForkJoin Workflow Element
- Configuring Virtualization
- Join Participants
- Using Join Workflow Element for Pass-Through Authentication
- DN Renaming Workflow Element
- DN Renaming: Example
- RDN Changing
- RDN Changing Workflow Element Definition Example
- Optimizing Virtualization Search Results
- Optimizing Virtual Search Results
- Summary

Integrating OUD with Enterprise User Security

- Objectives
- Database Management
- Database Management: Traditional Problems
- Database Management: An OUD Solution
- Enterprise User Security (EUS)
- Enterprise User Security: Overview
- Benefits of EUS
- Integrating EUS and OUD
- When to Integrate EUS and OUD
- Database Accounts Stored in OUD
- Configuring EUS with OUD
- Configuring EUS with OUD: High-Level Tasks
- OUD Setup and Configuration for EUS
- Set Up OUD Instance for EUS Integration
- Update modifyRealm.ldif File and Load into OUD
- Update java.security File and Restart OUD Instance
- Prepare Oracle Database for EUS
- View and Copy OUD Keystore Passphrase
- Get OUD Keystore Passphrase from keystore.pin File
- Export OUD Self-Signed SSL Certificate
- Add Exported OUD SSL Certificate to Database Wallet
- Configure DB Listener for Directory Connectivity
- Enable Oracle Database Directory Server Use
- Configure OUD Password Management for EUS Administration
- Configure Pluggable Database for EUS Integration
- Verify PDB Entries in OUD
- Log In to Pluggable Database and Add PDB Users

- Create User-to-Schema Mapping in OUD
- Test User Log In to Pluggable Database
- EUS with OUD Proxy and Active Directory PTA
- OUD Proxy Forwards Database Accounts to External Directory
- Accounts in Active Directory: Password-Based Authentication
- Accounts in Active Directory: Kerberos Authentication
- Integrating OUD, EUS, and AD for Password Authentication
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