

Oracle Coherence 12c: Administer and Troubleshoot Clusters Ed 2.1

Course Duration: 24 Hours

Course code: D88546GC20

1. Course Overview

This course equips participants with the knowledge and practical skills to install, configure, administer, and troubleshoot Oracle Coherence 12c clusters. Learners will gain expertise in cluster management, distributed caching, data partitioning, high availability, and monitoring. The training also covers Coherence management tools, diagnostics, and best practices for performance tuning and troubleshooting cluster-related issues. By the end, participants will be able to effectively maintain large-scale Coherence environments that support enterprise-grade applications.

2. What you'll learn?

By the end of this course, you should be able to:

- Describe Oracle Coherence 12c architecture and components
- Install and configure Coherence clusters
- Manage and monitor Coherence services and nodes
- Work with distributed caching, data partitioning, and replication
- Apply high availability and failover strategies
- Configure logging, metrics, and diagnostics for Coherence clusters
- Use Coherence Management Console, REST, and JMX tools
- Troubleshoot common cluster issues and optimize performance
- Apply best practices for administering Coherence in production environments

3. Target Audience

- Middleware administrators
- System administrators managing distributed caching solutions
- Application architects and support engineers
- IT professionals responsible for scalable and fault-tolerant applications

4. Pre-Requisites

Familiarity with:

- Oracle WebLogic Server administration
- Basic Java concepts and JVM tuning
- Networking and clustering fundamentals
- Operating system administration (Linux/Unix preferred)

5. Course content

Module 1: Course Introduction

- Introduction
- Course contents

Module 2: Introduction to Oracle Coherence 12c

- Overview of Coherence and use cases
- Coherence architecture and components
- Clustered caching concepts

Module 3: Installing and Configuring Coherence Clusters

- Installation requirements and setup
- Cluster configuration files
- Starting and stopping Coherence clusters

Module 4: Cluster Services and Data Management

- Distributed, replicated, and near caches
- Data partitioning and consistency models
- Backup and recovery strategies

Module 5: High Availability and Scalability

- Elastic data scaling
- Failover and recovery mechanisms
- Load balancing and redundancy

Module 6: Monitoring and Managing Clusters

- Coherence Management Console (CMC)
- Coherence REST management interface
- JMX monitoring and MBeans

Module 7: Logging, Metrics, and Diagnostics

- Configuring logging levels
- Collecting and analyzing cluster metrics
- Diagnostic tools and health checks

Module 8: Troubleshooting Coherence Clusters

- Identifying common issues
- Troubleshooting node failures and partitions
- Resolving performance bottlenecks

Module 9: Security in Coherence

- Configuring secure communication between cluster nodes
- Access control and authorization
- Best practices for securing Coherence clusters

Module 10: Performance Tuning and Optimization

- JVM tuning for Coherence
- Cache optimization techniques
- Resource management strategies

Module 11: Integration with WebLogic and Applications

- Using Coherence with Oracle WebLogic Server
- Application integration patterns
- Practical integration scenarios