Oracle Database 12c RAC Administration

Eğitim Tipi: **Classroom/AFA**

Süre: **4 Day**

Eğitim Hakkında

This Oracle Database 12c: RAC Administration training will teach you about Oracle RAC database architecture. Expert Oracle University instructors will deep dive into Global Resources and Cache Fusion.

Learn To:

- Install Oracle RAC software.
- Create cluster databases.
- Administer both administrator and policy-managed Oracle RAC databases.
- Monitor and address performance issues.
- Learn about services in a RAC environment as well as highly available connection features including Application Continuity and Transaction Guard.
- Create and administer a RAC One Node Database.
- Create and manage multitenant RAC databases.

Benefits to You:

Ensure fast, reliable, secure and easy to manage performance.
Optimize database workloads, lower IT costs and deliver a higher quality of service by enabling consolidation onto database clouds.

Target Audience:

- Database Administrators
- Administrator

Önkoşullar

- Oracle Database 12c: Grid Infrastructure Administration
- Oracle Database 12c: Oracle Automatic Storage Management Administration

Working knowledge of Oracle Database 11g: Release 2, including Clusterware, ASM and RAC. or:

- Oracle Database 12c: Clusterware Administration NEW
- Oracle Database 12c: ASM Administration NEW

Neler Öğreneceksiniz

At the end of this course you will be able to:

- Describe the Oracle Clusterware architecture
- Describe how Grid Plug and Play affects Clusterware
- Describe the benefits of Oracle RAC
- Explain the necessity of global resources
- Describe global cache coordination
- Install the Oracle database software
- Create a cluster database
- Perform post-database-creation tasks
- Convert a single-instance Oracle database to RACs
- Explain the principles and purposes of clusters
- Define redo log files in a RAC environment
- Define undo tablespaces in a RAC environment
- Start and stop RAC databases and instances
- Modify initialization parameters in a RAC environment
- Configure the RAC database to use ARCHIVELOG mode and the fast recovery area
- Configure RMAN for the RAC environment

Eğitim İçeriği

Grid Infrastructure Overview and Review

- What is a Cluster?
- What is a Flex Cluster
- Clusterware Characteristics
- Oracle Clusterware
- Hardware and Software Concepts (High level)

RAC Databases Overview & Architecture

- Overview of Oracle RAC
- RAC One Node
- Cluster-Aware Storage Solutions
- Benefits of Using RAC
- Scaleup and Speedup
- I/O Throughput Balanced
- Global Resources
- RAC and Flex ASM

Installing and Configuring Oracle RAC

- Installing the Oracle Database Software
- Installation options
- Creating the Cluster Database
- Post-installation Tasks
- Single Instance to RAC Conversion
- Cleaning Up Unsuccessful Installs

RAC Databases Overview & Architecture

- Parameters and RAC - SPFILE, Identical and Unique Parameters
- Instance Startup, Shutdown and Quiesce
- Undo Tablespaces
- Redo Threads
- Use Enterprise Manager Cluster Database Pages
- RAC Alerts
- RAC Metrics
- Session management on RAC instances

RAC Backup and Recovery

- Instance Failure And Recovery In RAC - LMON and SMON
- Redo Threads and Archive Log Configurations and Admin
- Parameter Settings Affecting Parallel Recovery and MTTR
- Instance Failure And Recovery In RAC - LMON and SMON
- RAC and the Fast Recovery Area
- RMAN Configuration
- RMAN Admin For RAC: Channels, Instances, Backup Distribution
- RMAN Restore And Recovery RAC Considerations

RAC Global Resource Management and Cache Fusion

- Globally Managed Resources and Management
- Library Cache Management
- Row cache management
- Buffer cache fusion
- Buffer Cache Management Requirements
- Accessing single blocks in RAC
- Multi-block read considerations in RAC
- Undo and read consistency considerations in RAC

RAC Monitoring and Tuning

- OCPU and Wait Time Latencies
- Wait Events for RAC
- Common RAC Tuning
- Session and System Statistics
- RAC specific V$ Views
- Automatic Database Diagnostic Monitor for RAC

Managing High Availability of Services in a RAC Environment

- Oracle Services
- Services for Policy - and Administrator-Managed Databases
- Creating Services
- Managing Services
- Use Services with Client Applications
- Services and Connection Load Balancing
- Services and Transparent Application Failover
- Services and the Resource Manager

Managing High Availability of Connections

- Types of Workload Distribution
- Client-Side Load Balancing
- Server-Side Load Balancing
- Runtime Connection Load Balancing and Connection Pools
- Fast Application Notification
- The Load Balancing Advisory FAN Event
- Server-Side Callouts
- Configuring the Server-Side ONS

Upgrading and Patching RAC

- Overview of Upgrades and Patching
- Release and Patch Set Upgrades
- PSU, CPU and Interim Patches
- Merge Patches
- Performing Out Of Place Database Upgrades
- Planning and Preparing for Upgrade
- Performing Out of Place Release Install or Upgrade
- Post Upgrade Tasks

Application Continuity

- What is AC?
- What problem does it solve?
- Benefits of AC
- How AC works
- AC Architecture
- Side Effects
- Restrictions
- Application requirements

Quality of Service Management

- QOS Management concepts
- Describe the benefits of using QoS Management
- QoS Management components
- QoS Management functionality

RAC One Node

- RAC One Node Concepts
- Online database migration
- Adding Oracle RAC One Node Database to an Existing Cluster
- Convert an Oracle RAC One Node database to a RAC database
- Convert an Oracle RAC database to a RAC One Node database
- Use DBCA to convert a single instance database to a RAC One Node database

Design for High Availability

- Causes of Planned and Unplanned Down Time
- Oracle's Solution to Down Time
- RAC and Data Guard
- Maximum Availability Architecture
- Fast-Start Failover
- Hardware Assisted Resilient Data
- Database High Availability Best Practices
- RAID Configuration for High Availability