

Oracle Database Administration

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Introduction

Effective Oracle Database administration is crucial for maintaining the performance, security, and scalability of database systems in today's fast-paced business environment. This course offers an in-depth exploration of advanced Oracle Database concepts, equipping participants with the skills and tools necessary for effective Oracle database administration. Through hands-on exercises in performance tuning, automation, high availability, and security, participants will be fully prepared to manage complex database systems. Whether you're new to Oracle databases or looking to enhance your skills, this course will help you master the techniques necessary to maintain and optimize Oracle database systems efficiently.

Course Objectives

By the end of this course, participants will be able to:

- Develop advanced proficiency in Oracle database administration.
- Master performance tuning and query optimization techniques to enhance database efficiency.
- Implement and manage robust Oracle database security measures to protect sensitive data.
- Automate routine Oracle database tasks using scripting and Oracle tools to increase productivity.
- Ensure high availability, scalability, and disaster recovery for Oracle databases.
- Troubleshoot and resolve complex Oracle database issues effectively.
- Gain expertise in Oracle database monitoring to ensure optimal performance and reliability.

Course Outlines

Day 1: Oracle Database Architecture & Configuration

- Overview of Oracle database architecture and key components.
- Key components: SGA, PGA, background processes, and memory structures.
- Database instance management: startup, shutdown, and dynamic parameter adjustments.
- Advanced configuration and tuning of Oracle Listener.

Day 2: Performance Tuning & Query Optimization

- In-depth understanding of Oracle performance architecture AWR, ASH, Statspack.
- Query optimization methods: EXPLAIN PLAN, SQL Trace, and indexing techniques.
- Memory management: tuning SGA and PGA to maximize performance.
- Real-time performance monitoring through Oracle Enterprise Manager OEM

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Day 3: Security & Data Protection

- Implementing Oracle Advanced Security features TDE, Data Redaction.
- Managing Oracle user roles, privileges, and profiles effectively.
- Auditing and compliance with Oracle Database Vault and fine-grained auditing.
- Backup and recovery using RMAN Recovery Manager and Flashback technologies.

Day 4: High Availability & Disaster Recovery

- Configuring Oracle Real Application Clusters RAC for high availability.
- Setting up Oracle Data Guard: failover, switchover, and recovery operations.
- Implementing Automatic Storage Management ASM.
- Leveraging Oracle GoldenGate for data replication and synchronization.

Day 5: Automation & Cloud Integration

- Automating Oracle database tasks with DBMS_SCHEDULER and Oracle Enterprise Manager.
- Scripting for routine database maintenance using PL/SQL and shell scripting.
- Managing Oracle databases in the cloud: Autonomous Database and Exadata Cloud Service.
- Database migration strategies to Oracle Cloud Infrastructure OCI.

Why Attend This Course: Wins & Losses!

By attending this course, you'll gain critical skills to efficiently manage Oracle databases in complex enterprise environments. Participants will benefit by:

- Mastering performance tuning and query optimization techniques to enhance the overall efficiency of Oracle databases.
- Implementing robust Oracle database security measures to safeguard sensitive information.
- Automating routine database tasks to increase productivity and reduce manual work in Oracle database administration.
- Ensuring high availability and disaster recovery for Oracle databases, thus maintaining business continuity and reducing downtime.
- Gaining expertise in managing Oracle databases in the cloud, promoting scalability, flexibility, and business innovation.
- Achieving a competitive edge in the job market with a specialized database administration course that enhances your knowledge of Oracle database systems.

Conclusion

This course is an essential step for professionals looking to enhance their Oracle database administration skills. With a comprehensive understanding of Oracle database types, advanced concepts like performance tuning, security, and automation, and practical experience in high availability and cloud integration, participants will be fully equipped to tackle complex database management challenges.

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A graphic of a chessboard with several chess pieces (king, queen, rook, knight, and pawns) positioned on it. The board is checkered, and the pieces are in various colors (gold, silver, black).

By attending this course, you'll be prepared to handle critical Oracle database administration tasks and contribute to the success of your organization.

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