

3 days course to Cover

Oracle AI Database New Feature and Performance Management & Tunning

(To cover all the topic based on Exam, lab not Required)

Oracle AI Database: New Feature

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Oracle Database Performance and Tuning (120-183)

Module 1: Performance Tuning Methodology (30 min)

- Performance Tuning Approach
- Response Time vs Throughput
- Database Time (DB Time)
- Identifying Performance Bottlenecks
- Reactive vs Proactive Tuning

Module 2: Oracle Performance Architecture (45 min)

- Oracle Instance Architecture Review
- SGA Components
- PGA Components
- Memory Management Concepts
- Performance Impact of Memory Structures

Module 3: Automatic Workload Repository (AWR) (60 min)

- AWR Architecture
- Snapshot Management
- Generating AWR Reports
- Understanding AWR Sections

Key Report Areas

- Load Profile
- Top Timed Events
- Instance Efficiency
- SQL Statistics
- Advisory Sections

Module 4: ADDM and ASH (45 min)

ADDM

- Architecture
- Recommendations
- Findings Analysis

ASH

- Active Session History
- Session Activity Analysis
- Bottleneck Identification

Module 5: Wait Event Analysis (45 min)

- Oracle Wait Interface
- Wait Classes
- Top Wait Events

Important Waits

- db file sequential read
- db file scattered read
- log file sync
- log file parallel write
- buffer busy waits
- library cache lock

Module 6: SQL Tuning Fundamentals (90 min)

SQL Processing

- Parse
- Execute
- Fetch

Access Paths

- Full Table Scan
- Index Range Scan
- Index Unique Scan

- Fast Full Index Scan

Join Methods

- Nested Loop Join
- Hash Join
- Sort Merge Join

Module 7: Optimizer and Statistics (60 min)

Oracle Optimizer

- Cost Based Optimizer (CBO)
- Optimizer Decisions
- Cardinality Estimates

Statistics Management

- Table Statistics
- Index Statistics
- Histograms
- Gather Statistics

Module 8: Advisors and SQL Tuning Tools (45 min)

SQL Tuning Advisor

- SQL Profiles
- Advisor Recommendations

SQL Access Advisor

- Index Recommendations
- Materialized View Recommendations

Automatic SQL Tuning

Module 9: Index Tuning (30 min)

Index Types

- B-Tree Index
- Bitmap Index
- Composite Index

- Unique Index

Index Usage

- When Oracle Uses an Index
- When Oracle Ignores an Index

Module 10: Real-Time SQL Monitoring & Performance Hub (30 min)

- Real-Time SQL Monitoring
- SQL Monitor Reports
- Performance Hub
- Top Activity Page