



Database Performance Tuning: Optimize Oracle & SQL Server for Maximum Efficiency



AGILE LEADERS
Training Center

Database Performance Tuning: Optimize Oracle & SQL Server for Maximum Efficiency

Course Overview:

"Database Performance Tuning: Oracle & SQL Server Masterclass" is a specialized 5-day corporate training designed to equip database administrators and technical professionals with practical skills and deep understanding of performance tuning across two leading platforms: Oracle and Microsoft SQL Server. With a focus on real-world performance issues and their solutions, this course delves into SQL performance optimization, execution plans, indexing techniques, and database optimization techniques using tools like Oracle AWR and SQL Server execution plans. Through hands-on examples, participants will learn how to identify bottlenecks, optimize queries, and tune both systems for peak performance.

Target Audience:

- Database Administrators DBAs
- Database Developers
- Data Engineers
- IT System Analysts
- Software Engineers working with enterprise databases
- Technical Project Leads involved in performance-critical systems

Targeted Organizational Departments:

- IT Infrastructure
- Data Management Teams
- Software Development Units
- Enterprise Architecture Groups
- DevOps Teams
- Application Performance Monitoring Units

Targeted Industries:

- Banking and Financial Services
- Telecommunications
- Healthcare & Life Sciences
- Government & Public Sector
- E-commerce & Retail
- Insurance & Risk Management
- Oil & Gas and Energy Sectors



Course Offerings:

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

- Analyze and interpret execution plans in both Oracle and SQL Server •
- Apply SQL performance optimization techniques across platforms •
 - Tune PL/SQL and T-SQL for efficient processing •
 - Use Oracle AWR and SQL Server Profiler for diagnostics •
 - Implement indexing strategies and query rewriting •
- Apply advanced tuning techniques for enterprise-grade workloads •
 - Resolve common performance bottlenecks •
- Monitor and optimize database workloads using native tools •

Training Methodology:

This training course uses a blend of instructor-led sessions, real-time database labs, hands-on case studies, and collaborative diagnostics exercises. Participants will engage in performance troubleshooting drills, cross-platform tuning comparisons, and guided walkthroughs of tools like Oracle SQL Developer and SQL Server Management Studio. The course emphasizes experiential learning using real SQL tuning scenarios, performance dashboards, and slow query analysis from both Oracle and SQL Server perspectives.

Course Toolbox:

- Sample Oracle and SQL Server databases for labs •
- Query optimization checklists •
- Execution plan templates and comparison sheets •
- Troubleshooting flowcharts for Oracle AWR and SQL Profiler •
- Tuning scripts and index templates •
- Case-based assignments and solution decks •

Course Agenda:

Day 1: Introduction to Database Performance Tuning Concepts

- Fundamentals of Database Performance Tuning Topic 1: •
- Comparing Oracle vs SQL Server Architectures Topic 2: •
- Key Performance Indicators KPIs and Bottlenecks Topic 3: •
- Oracle and SQL Server Execution Plans Overview Topic 4: •
- Role of Statistics and Optimizer Behavior Topic 5: •
- Performance Tuning Mindset and Methodologies Topic 6: •
- Tuning Mindset and Cross-Platform Foundations Reflection & Review: •



Day 2: SQL Query Optimization Techniques

- Oracle SQL Query Tuning and PL/SQL Best Practices Topic 1: •
- SQL Server Query Tuning with T-SQL Optimization Techniques Topic 2: •
- Identifying and Rewriting Inefficient Queries Topic 3: •
- Use of Bind Variables, Hints, and Caching Topic 4: •
- Adaptive Query Optimization in Oracle vs SQL Server Topic 5: •
- Platform-Specific Query Optimization Strategies Topic 6: •
- SQL Optimization Challenges & Tools Comparison Reflection & Review: •

Day 3: Indexing, Execution Plans & Advanced Tuning Tools

- SQL Indexing Best Practices for Oracle and SQL Server Topic 1: •
- Reading and Interpreting Execution Plans Topic 2: •
- Index Scan vs Seek: Understanding Performance Impacts Topic 3: •
- Oracle AWR Reports and SQL Server Execution Plan Utilities Topic 4: •
- Identifying Query Hotspots Using Tuning Tools Topic 5: •
- Fixing Slow Queries Using Visual Plan Insights Topic 6: •
- Real-World Execution Plan Scenarios Reflection & Review: •

Day 4: Monitoring, Diagnostics & Workload Management

- Oracle Performance Views and SQL Developer Tuning Utilities Topic 1: •
- SQL Server Profiler and Extended Events Overview Topic 2: •
- Using Baselines and Workload Repository in Oracle Topic 3: •
- Monitoring Index Usage and Query Stats in SQL Server Topic 4: •
- Resource Governance and Parallel Execution Considerations Topic 5: •
- Alert Logs, Wait Events, and Blocking Sessions Topic 6: •
- Diagnosing Live System Bottlenecks Reflection & Review: •

Day 5: Performance Tuning Strategy and Troubleshooting Lab

- Cross-Platform Tuning Strategy for Hybrid Environments Topic 1: •
- Troubleshooting Slow Queries in Real Time Topic 2: •
- Resolving Blocking and Deadlocks Topic 3: •
- Optimization of Batch Jobs and Reporting Queries Topic 4: •
- Final Lab: End-to-End Tuning Challenge Topic 5: •
- Consolidated Tuning Checklist and Action Plan Topic 6: •
- Lessons Learned and Performance Best Practices Reflection & Review: •

FAQ:

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

A basic understanding of SQL and relational database concepts is expected. Prior hands-on experience with either Oracle or SQL Server is highly recommended for maximum benefit.

How long is each day's session, and is there a total number of hours required for the entire course?

Each day's session is generally structured to last around 4-5 hours, with breaks and interactive activities included. The total course duration spans five days, approximately 20-25 hours of instruction.

Can this course be applied in cloud-hosted or hybrid environments?

Yes. The techniques and diagnostics tools discussed can be applied to both on-premise and cloud-based deployments of Oracle and SQL Server.

How This Course is Different from Other Database Performance Tuning Courses:

Unlike general tuning courses that focus only on one platform or theoretical optimization, this masterclass offers a dual-platform approach covering both Oracle and SQL Server with practical, side-by-side comparisons. It goes beyond basic SQL optimization by equipping professionals with diagnostic strategies using tools like Oracle AWR and SQL Server Profiler. Through intensive labs, participants gain real-world experience in solving slow queries and system bottlenecks. The course draws from official Oracle and Microsoft guidance while offering independent analysis frameworks, ensuring vendor-neutral, actionable tuning practices for enterprise environments.



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WHO WE ARE

Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

OUR MISSION

We are dedicated to developing value-adding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.



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