

## Oracle Sql Tuning With Oracle Sqltexplain

This Study Guide is targeted at IT professionals who are working towards the OCE certification: Oracle Certified Expert, Oracle Database 11g Release 2 SQL Tuning. The book provides information covering all of the exam topics for the Oracle certification exam: "1Z0-117: Oracle Database 11g Release 2: SQL Tuning." The books in the Oracle Certification Prep series are built in lockstep with the test topics provided by Oracle Education's certification program. Each book is intended to provide the information that will be tested in a clean and concise format. The guides introduce the subject you'll be tested on, follow that with the information you'll need to know for it, and then move on to the next topic. They contain no drills or unrealistic self-tests to bump the page count without adding value. The series is intended to provide a concentrated source of exam information that is compact enough to be read through multiple times. This series is ideal for experienced Oracle professionals that are familiar with the topic being tested, but want a means to rapidly reinforce their existing skills and bridge any gaps in their knowledge. It is also an excellent option as a second source of information for candidates pursuing certification.

Write SQL statements that are more powerful, simpler, and faster using Oracle SQL and its full range of features. This book provides a clearer way of thinking about SQL by building sets, and provides practical advice for using complex features while avoiding anti-patterns that lead to poor performance and wrong results. Relevant theories, real-world best practices, and style guidelines help you get the most out of Oracle SQL. Pro Oracle SQL Development is for anyone who already knows Oracle SQL and is ready to take their skills to the next level. Many developers, analysts, testers, and administrators use Oracle databases frequently, but their queries are limited because they do not have the knowledge, experience, or right environment to help them take full advantage of Oracle's advanced features. This book will inspire you to achieve more with your Oracle SQL statements through tips for creating your own style for writing simple, yet powerful, SQL. It teaches you how to think about and solve performance problems in Oracle SQL, and covers advanced topics and shows you how to become an Oracle expert. What You'll Learn Understand the power of Oracle SQL and where to apply it Create a database development environment that is simple, scalable, and conducive to learning Solve complex problems that were previously solved in a procedural language Write large Oracle SQL statements that are powerful, simple, and fast Apply coding styles to make your SQL statements more readable Tune large Oracle SQL statements to eliminate and avoid performance problems Who This Book Is For Developers, testers, analysts, and administrators who want to harness the full power of Oracle SQL to solve their problems as simply and as quickly as possible. For traditional database professionals the book offers new ways of thinking about the language they have used for so long. For modern full stack developers the book explains how a database can be much more than simply a place to store data.

Your Oracle career starts here! Ideal for those new to Oracle technology, this officially authorized guide teaches new DBAs the essentials of keeping an Oracle database running at top performance. You'll get coverage of application, instance, database, I/O, OS, and contention tuning.

Pro Oracle SQL, Second Edition unlocks the power of SQL in the Oracle database—one of the most potent SQL implementations on the market today. To master it requires a multi-pronged approach: learn the language features, learn how and why the language features work, learn the supporting features that Oracle provides to help use the language effectively, and learn to think and work in sets. Karen Morton has updated the content for Oracle version 12c and helps you master powerful aspects of Oracle SQL from the inside-out. You'll learn analytic functions, the MODEL clause, and advanced grouping syntax—features that will help in creating good queries for reporting and business intelligence applications. Pro Oracle SQL, Second Edition

also helps you minimize parsing overhead, read execution plans, test for correct results, understand performance management, and exert control over SQL execution in your database. You'll learn when to create indexes, how to verify that they make a difference, how to use SQL Baselines and Profiles to optimize and stabilize SQL execution plans, and much more. You'll also understand how SQL is optimized for working in sets, and that the key to getting accurate results lies in making sure that queries ask clear and precise questions. Pro Oracle SQL, Second Edition helps you work at a truly professional level in the Oracle dialect of SQL. You'll master the language, the tools to work effectively with the language, and the right way to think about a problem in SQL. Endorsed by the OakTable Network, a group of Oracle technologists well-known for their rigorous and scientific approach to Oracle Database performance Comprehensive—goes beyond the language with a focus on what you need to know to write successful queries and data manipulation statements. Performance focused—teaches you how to measure the performance of your SQL statements and not just the syntax.

It's impossible to tune an Oracle database without understanding SQL tuning. Oracle is a SQL processing engine and the execution speed of any SQL query is influenced by many factors, both internal and external. As a declarative data access method, SQL relies on the Oracle cost-based optimizer to always choose the "best" execution plan for every SQL query. However, Oracle's SQL is among the most flexible and robust in the world, and along with this great power comes complexity. Tuning Oracle SQL is the single most important skill of any Oracle professional, and Oracle professionals are challenged to create SQL statements that will support thousands of concurrent executions with sub-second response time. "Advanced Oracle SQL Tuning" is a pragmatic treatment of Oracle SQL tuning, short on theory and big on real-world techniques and tips. This book is the culmination of the author's 25 years of full-time DBA experience and he shares expert tips and secrets for hyper charging SQL execution speed. This book covers advanced topics and it is not appropriate for beginners, dilettantes or neophytes.

Performance problems are rarely "problems" per se. They are more often "crises" during which you're pressured for results by a manager standing outside your cubicle while your phone rings with queries from the help desk. You won't have the time for a leisurely perusal of the manuals, nor to lean back and read a book on theory. What you need in that situation is a book of solutions, and solutions are precisely what Oracle Database 11g Performance Tuning Recipes delivers. Oracle Database 11g Performance Tuning Recipes is a ready reference for database administrators in need of immediate help with performance issues relating to Oracle Database. The book takes an example-based approach, wherein each chapter covers a specific problem domain. Within each chapter are "recipes," showing by example how to perform common tasks in that chapter's domain. Solutions in the recipes are backed by clear explanations of background and theory from the author team. Whatever the task, if it's performance-related, you'll probably find a recipe and a solution in this book. Provides proven solutions to real-life Oracle performance problems Offers relevant background and theory to support each solution Written by a team of experienced database administrators successful in their careers

In this book you will find both examples and theoretical concepts covered. Every recipe is based on a script/procedure explained step-by-step, with screenshots, while theoretical concepts are explained in the context of the recipe, to explain why a solution performs better than another. This book is aimed at software developers, software and data architects, and DBAs who are using or are planning to use the Oracle Database, who have some experience and want to solve performance problems faster and in a rigorous way. If you are an architect who wants to design better applications, a DBA who is keen to dig into the causes of performance issues, or a developer who wants to learn why and where the application is running slow, this is the book for you. Basic knowledge of SQL language is required and

general knowledge of the Oracle Database architecture is preferable.

This Oracle 11g learning guide will equip database administrators and application developers to build efficient SQL statements and to tune database applications. When this effort is complemented by database server and PL/SQL application tuning, then a highly efficient application execution environment is created. One will learn about the internals of SQL statement execution, how to monitor the performance of such execution, and how one can influence the behavior of the database to achieve performance gains. This textbook is a mandatory reference for any database administrator or SQL database application developer. The following specific topics are among those considered: - Consider the unique and differing tuning issues found in online database applications, enterprise resource and data warehouse environments and the important metrics of SQL statement performance; - Learn about the internal mechanisms use for SQL statement execution within a database instance and how these can affect performance for good or bad, including the Optimizer facilities known as the Transformation Engine, Estimator and Plan Generator; - Use a variety of techniques to examine the details of SQL statement execution, spotting trouble areas and bottlenecks which require tuning; - Learn about the Auto-Task framework and how to manage the automatic collection of Optimizer statistics and automatic SQL tuning using both the programmatic and Enterprise Manager interfaces; - Learn how statistic deficiencies can dramatically degrade performance, and how these problems are resolved through customized Optimizer statistics collection procedures using the DBMS\_STATS() package, system statistics, histograms, expression statistics and MultiColumn statistics; - Influence the behavior of the Optimizer by setting database parameters and other SQL tuning techniques; - Utilize the database advisory framework and the SQL Tuning and SQL Access advisors;- Use plan management to achieve plan stability which is adaptive and even dynamic; - Understand the self-tuning infrastructure and the automatic SQL tuning capabilities found within the database; - Employ SQL hints embedded into the statement text to resolve unique tuning challenges; - Learn to identify poorly performing SQL statements using real-time SQL monitoring and application tracing techniques such as DBMS\_MONITOR(), trcsess and tkprof.

Written by a Senior Database Administrator who has worked with the Oracle RDBMS for thirty years, this is a book which teaches the skill of SQL Tuning for the Oracle Database. Not a list of one-off tricks or tips, nor a glossing over of topics; this book offers an in-depth process covering discovery, analysis, and problem resolution. Learn the science behind SQL Tuning. Learn and apply the FILTERED ROWS PERCENTAGE Cardinality based method of tuning Determine a query's Driving Table and Join Order Construct Query Diagrams, Data Models, and Join Trees Build and use Count / Filter / and Reconstruction Queries Identify Waste in a Query Execution Plan Zero in on Cardinality Divergence using Estimated vs. Actuals Use the ACCESS / FILTER / COVERAGE strategy to build indexes for Problem Queries Exploit THE 2% RULE in analyzing Access method and Join method Classify queries as Precision Style or Warehouse Style Understand Hash Join mechanics and make Hash Joins go faster Make HINTS work as Detection Tools rather than clubs Avoid early Database Design flaws Manage Statistics and deal with common Statistics problems (NDV, Uniform Distribution, Independence, Dynamic Sampling) (Staleness, Skew, Dependence, Defaulting, Out-Of-Bounds, Transiency, Bloat) Perfect your Question Based Analysis Technique and more Included are: a special chapter for EXADATA, a LAB which demonstrates the cardinality based process of SQL Tuning, and

twenty three magical SQL scripts that make the process of SQL Tuning easy to do. Learn the skill of SQL Tuning as taught by an expert who does it for a living, and become the go-to specialist in your company. Chapter 1: DRIVING TABLE and JOIN ORDER Chapter 2: Ways to Use a Query Execution Plan Chapter 3: The Best Indexes for a Query Chapter 4: JOINS Chapter 5: HINTS Chapter 6: BASICS Chapter 7: ROW COUNTS and RUN TIMES Chapter 8: EXADATA LAB: Reverse Engineering the QEP Appendix: Know Your Scripts Scripts for analyzing queries and plans Scripts for examining an active database Scripts for looking at metadata showplan showplanshort showplanconstraints showplancountqueries showplandatamodel showplandrivingtable showplanfilterqueries showplanfrpspreadsheetcode showplanindexes showplannumrows showplanquerydiagram showplantables showplantablesunique loadplanfromcache loadplanfromhist showtopcpu showowner showindexes showconstraints showcolstats showhistograms showallscanrates showallworkareas It's all about the Cardinalities

The target of SQL tuning is the improvement of the existing execution plan. The authors discuss the removal of brakes in the execution plan. Such "brakes" or bottlenecks can be recognized by a formal analysis of the execution plan. For this purpose no data model knowledge is needed. This is especially beneficial for database administrators because they are usually not or insufficiently familiar with the data model. The book presents numerous practical examples with this method.

This book describes how the Oracle RDBMS arrives at an Execution Plan. This book covers useful tools useful for getting Explain Plans as well as useful Hints used to give directives to the Cost-Based Optimizer. This book is current to Oracle11.

Provides information on ways to achieve high performance from PL/SQL. For Oracle tuning professionals wishing to add more tools to their Oracle tuning toolbox, this guidebook introduces the various tuning analytical tools and helpful strategies to make the database easier to use. Details describe how to extract information from the database and use it to determine and increase efficiency. It also provides specific steps with detailed information on how to congeal large amounts of database performance information into one pool from which the DBA can carefully choose tuning options based on what is predicted, all to give them the biggest improvement in performance for the least time and money investment. Sample code, sample code results, and guidelines on how to interpret the results help users manipulate code in an effective way. With countless hints, tips, and tools, the guide fully explains how to work with the Oracle system on order to achieve database performance excellence.

Oracle SQL Tuning with SQLTXPLAIN is a practical guide to SQL tuning the way Oracle's own experts do it, using a freely downloadable tool called SQLTXPLAIN. Using this simple tool you'll learn how to tune even the most complex SQL, and you'll learn to do it quickly, without the huge learning curve usually associated

with tuning as a whole. Firmly based in real world problems, this book helps you reclaim system resources and avoid the most common bottleneck in overall performance, badly tuned SQL. You'll learn how the optimizer works, how to take advantage of its latest features, and when it's better to turn them off. Quickly tune any SQL statement no matter how complex. Build and tune test cases without affecting production. Use the latest tuning features with confidence.

As Oracle professionals are challenged to create SQL statements that will support thousands of concurrent executions with sub-second response time, this book's timing is critical as tuning Oracle SQL has become the single most important skill of the Oracle professional. While not appropriate for the beginner, this book allows senior Oracle professionals to explore important internal mechanisms within Oracle and the powerful and complex internals of Oracle SQL execution. Topics include the internals of Oracle cost-based SQL optimizer, SQL execution internals within the library cache, Oracle SQL coding and optimization techniques, and Oracle index internals. Also included is a ready-to-use code depot full of working SQL tuning scripts, which allow for quick optimization of the SQL and indexes inside the Oracle database.

Performance problems are rarely "problems" per se. They are more often "crises" during which you're pressured for results by a manager standing outside your cubicle while your phone rings with queries from the help desk. You won't have the time for a leisurely perusal of the manuals, nor to lean back and read a book on theory. What you need in that situation is a book of solutions, and solutions are precisely what Oracle Database 12c Performance Tuning Recipes delivers. Oracle Database 12c Performance Tuning Recipes is a ready reference for database administrators in need of immediate help with performance issues relating to Oracle Database. The book takes an example-based approach, wherein each chapter covers a specific problem domain. Within each chapter are "recipes," showing by example how to perform common tasks in that chapter's domain. Solutions in the recipes are backed by clear explanations of background and theory from the author team. Whatever the task, if it's performance-related, you'll probably find a recipe and a solution in this book. Provides proven solutions to real-life Oracle performance problems Offers relevant background and theory to support each solution Gets straight to the point for when you're under pressure for results

Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. Master Oracle Database 12c Release 2 testing and tuning Seamlessly transition to Oracle Database 12c Release 2 and achieve peak performance using the step-by-step instruction and best practices contained in this Oracle Press guide. Written by a team of Oracle ACEs, Oracle Database 12c Release 2 Testing Tools and Techniques for Performance and Scalability clearly explains how to identify, investigate, and resolve performance issues. You will discover how to use troubleshooting tools and test rigs, optimize code and queries, evaluate database performance, perform realistic application testing, capture and replay actual production workloads, and employ Oracle Database In-Memory. •Establish benchmarks and

evaluate application workload performance •Configure and deploy SQL Tuning Advisor and SQL Access Advisor •Maximize efficiency using Oracle Database In-Memory and In-Memory Advisor •Identify and repair poorly running code with SQL Monitor •Uncover database problems using Real-Time ADDM and Emergency Monitoring •Work with database workload capture and replay •Analyze third-party code with Workload Intelligence •Identify database objects that will benefit most from In-Memory Column Store (IMCS) •Monitor and manage IMCS objects with In-Memory Central

SQL and PL/SQL Query Tuning and Optimization Tips and Tricks

Proven PL/SQL Optimization Solutions In Oracle PL/SQL Performance Tuning Tips & Techniques, Oracle ACE authors with decades of experience building complex production systems for government, industry, and educational organizations present a hands-on approach to enabling optimal results from PL/SQL. The book begins by describing the discovery process required to pinpoint performance problems and then provides measurable and repeatable test cases. In-depth coverage of linking SQL and PL/SQL is followed by deep dives into essential Oracle Database performance tuning tools. Real-world examples and best practices are included throughout this Oracle Press guide. Follow a request-driven nine-step process to identify and address performance problems in web applications Use performance-related database tools, including data dictionary views, logging, tracing, PL/SQL Hierarchical Profiler, PL/Scope, and RUNSTATS Instrument code to pinpoint performance issues using call stack APIs, error stack APIs, and timing markers Embed PL/SQL in SQL and manage user-defined functions Embed SQL in PL/SQL using a set-based approach to handle large volumes of data Properly write and deploy data manipulation language triggers to avoid performance problems Work with advanced datatypes, including LOBs and XML Use caching techniques to avoid redundant operations Effectively use dynamic SQL to reduce the amount of code needed and streamline system management Manage version control and ensure that performance fixes are successfully deployed Code examples in the book are available for download.

Introduce the latest version of the fundamental SQL language used in all relational databases today with Casteel's ORACLE 12C: SQL, 3E. Much more than a study guide, this edition helps those who have only a basic knowledge of databases master the latest SQL and Oracle concepts and techniques. Learners gain a strong understanding of how to use Oracle 12c SQL most effectively as they prepare for the first exam in the Oracle Database Administrator or Oracle Developer Certification Exam paths. This edition initially focuses on creating database objects, including tables, constraints, indexes, sequences, and more. The author then explores data query techniques, such as row filtering, joins, single-row functions, aggregate functions, subqueries, and views, as well as advanced query topics. ORACLE 12C: SQL, 3E introduces the latest features and enhancements in 12c, from enhanced data types and invisible columns to new CROSS and OUTER APPLY methods for joins. To help readers transition to further studies, appendixes introduce SQL tuning, compare Oracle's SQL syntax with other databases, and overview Oracle connection interface tools: SQL Developer and SQL Plus. Readers can trust ORACLE 12C: SQL, 3E to provide the knowledge for Oracle certification testing and the solid foundation for pursuing a career as a successful database administrator or developer. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Expert Oracle SQL: Optimization, Deployment, and Statistics is about optimizing individual SQL statements, especially on production database systems. This Oracle-specific book begins by assuming you have already identified a particular SQL statement and are considering taking steps to improve its performance. The book describes a systematic process by which to diagnose a problem statement, identify a fix, and to implement that fix safely in a production system. You'll learn not only to improve performance when it is too slow, but also to stabilize performance when it is too variable. You'll learn about system statistics and how the Cost-

Based Optimizer uses them to determine a suitable execution plan for a given statement. That knowledge provides the foundation from which to identify the root cause, and to stabilize and improve performance. Next after identifying a problem and the underlying root cause is to put in place a solution. Expert Oracle SQL: Optimization, Deployment, and Statistics explains how to apply various remedies such as changing the SQL statement, adding hints, changing the physical design, and more, and how they can be brought to bear on fixing a problem once and for all. Rolling a change out smoothly is an important topic when dealing with tuning and optimization. Expert Oracle SQL: Optimization, Deployment, and Statistics does not let you down in this critical area. The book contains two chapters of good information from an experienced professional on how to safely deploy changes into production so that your systems remaining running and available throughout the deployment process. Describes a systematic approach to tuning Oracle SQL Explains how things are supposed to work, what can go wrong, and how to fix it Takes you through the steps needed to stabilize performance in your production systems

Proven Database Optimization Solutions? Fully Updated for Oracle Database 12c Release 2 Systematically identify and eliminate database performance problems with help from Oracle Certified Master Richard Niemiec. Filled with real-world case studies and best practices, Oracle Database 12c Release 2 Performance Tuning Tips and Techniques details the latest monitoring, troubleshooting, and optimization methods. Find out how to identify and fix bottlenecks on premises and in the cloud, configure storage devices, execute effective queries, and develop bug-free SQL and PL/SQL code. Testing, reporting, and security enhancements are also covered in this Oracle Press guide.

- Properly index and partition Oracle Database 12c Release 2
- Work effectively with Oracle Cloud, Oracle Exadata, and Oracle Enterprise Manager
- Efficiently manage disk drives, ASM, RAID arrays, and memory
- Tune queries with Oracle SQL hints and the Trace utility
- Troubleshoot databases using V\$ views and X\$ tables
- Create your first cloud database service and prepare for hybrid cloud
- Generate reports using Oracle's Statspack and Automatic Workload Repository tools
- Use sar, vmstat, and iostat to monitor operating system statistics

A Fully Integrated Study System for OCP Exam 1Z0-050 Prepare for the Oracle Certified Professional Oracle Database 11g New Features for Administrators exam with help from this exclusive Oracle Press guide. In each chapter, you'll find challenging exercises, practice questions, a two-minute drill, and a chapter summary to highlight what you've learned. This authoritative guide will help you pass the test, and serve as your essential on-the-job reference. Get complete coverage of all OCP objectives for exam 1Z0-050, including:

- Installation and upgrades
- Partitioning and storage
- Intelligent infrastructure
- Diagnostics and fault management
- Performance Oracle Recovery Manager and Oracle Flashback Security
- Oracle SQL Performance Analyzer
- SQL plan management
- Automatic SQL tuning

On the CD-ROM: One full practice exam that simulates the actual OCP exam Detailed answers and explanations Score report performance assessment tool Complete electronic book Bonus exam available free with online registration

FOREWORD by Tom Kyte Your Must-Have Guide to Everything New in Oracle Database 11g Realize the full potential of Oracle Database 11g with help from the experts. Written by Robert G. Freeman, and with insightful commentary throughout from Arup Nanda, this Oracle Press guide offers full details on the architectural changes, database administration upgrades, availability and recovery revisions, security enhancements, and programming innovations. Every new and updated feature is covered and presented with screenshots, code samples, tables, and charts. Find out how to take full advantage of all the new and improved capabilities of Oracle Database 11g, including: New Oracle Automatic Storage Management features, such as Fast Disk Resync, Compatibility Attributes, Preferred Mirror Read, and Rolling Upgrade components Improved Automated Memory Management capabilities New database design

features, such as virtual columns, tablespace encryption, and true table-level data compression New Database Advisors for data recovery and repair, partitioning, and streams performance New tuning features, such as Automatic SQL Tuning and SQL Performance Analyzer Enhancements to Oracle RMAN, including active database duplication and UNDO backup optimization Improved auditing and security capabilities Advanced BI, data warehousing, and partitioning features New SQL and PL/SQL enhancements Speed up the execution of important database queries by making good choices about which indexes to create. Choose correct index types for different scenarios. Avoid indexing pitfalls that can actually have indexes hurting performance rather than helping. Maintain indexes so as to provide consistent and predictable query response over the lifetime of an application. Expert Oracle Indexing and Access Paths is about the one database structure at the heart of almost all performance concerns: the index. Database system performance is one of the top concerns in information technology today. Administrators struggle to keep up with the explosion of access and activity driven by the proliferation of computing into everything from phones to tablets to PCs in our increasingly connected world. At the heart of any good-performing database lies a sound indexing strategy that makes appropriate use of indexing, and especially of the vendor-specific indexing features on offer. Few databases fully exploit the wealth of data access mechanisms provided by Oracle. Expert Oracle Indexing and Access Paths helps by bringing together information on indexing and how to use it into one blissfully short volume that you can read quickly and have at your fingertips for reference. Learn the different types of indexes available and when each is best applied. Recognize when queries aren't using indexes as you intend. Manage your indexing for maximum performance. Confidently use the In Memory column store feature as an alternate access path to improve performance. Let Expert Indexing in Oracle Database 12c be your guide to deep mastery of the most fundamental performance optimization structure in Oracle Database. Explains how indexes help performance, and sometimes hinder it too Demystifies the various index choices so that you can chose rightly Describes the database administration chores associated with indexes Demonstrates the use of the In Memory column store as an alternate access path to the data What You Will Learn Create an overall indexing strategy to guide your decisions Choose the correct indexing mechanisms for your applications Manage and maintain indices to avoid degradation and preserve efficiency Take better advantage of underused index types such as index-organized tables Choose the appropriate columns to index, with confidence Blend partitioning and materialized views into your indexing strategy Who This Book Is For All levels of database administrators and application developers who are struggling with the database performance and scalability challenge. Any database administrator involved with indexing, which is any database administrator period, will appreciate the wealth of advice packed into this gem of a book.

Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. From the official Oracle Press comes a comprehensive guide to tuning SQL statements for optimal execution This expert resource explains how to view the internal execution plan of any SQL statement and change it to improve the performance of the statement. You'll get details on Oracle's optimizer modes, SQL extensions, the STATSPACK utility, and a wealth of methods for tuning Oracle SQL statements.

Targeted at Oracle professionals who need fast and accurate working examples of complex issues, Oracle In-focus books target specific areas of Oracle technology in a concise manner. Plenty of working code is provided without a lot of theory, allowing database managers to solve their problems quickly without reviewing data that they already know. All code scripts are available for instant download from a companion web site.

This is a comprehensive guide to writing SQL code that's optimized for performance. It

includes a unique set of software tools on CD-ROM for benchmarking SQL performance. A poorly performing database application not only costs users time, but also has an impact on other applications running on the same computer or the same network. SQL Tuning provides an essential next step for SQL developers and database administrators who want to extend their SQL tuning expertise and get the most from their database applications. There are two basic issues to focus on when tuning SQL: how to find and interpret the execution plan of an SQL statement and how to change SQL to get a specific alternate execution plan. SQL Tuning provides answers to these questions and addresses a third issue that's even more important: how to find the optimal execution plan for the query to use. Author Dan Tow outlines a timesaving method he's developed for finding the optimum execution plan--rapidly and systematically--regardless of the complexity of the SQL or the database platform being used. You'll learn how to understand and control SQL execution plans and how to diagram SQL queries to deduce the best execution plan for a query. Key chapters in the book include exercises to reinforce the concepts you've learned. SQL Tuning concludes by addressing special concerns and unique solutions to "unsolvable problems." Whether you are a programmer who develops SQL-based applications or a database administrator or other who troubleshoots poorly tuned applications, SQL Tuning will arm you with a reliable and deterministic method for tuning your SQL queries to gain optimal performance.

"This book should satisfy those who want a different perspective than the official Oracle documentation. It will cover all important aspects of a data warehouse while giving the necessary examples to make the reading a lively experience. - Tim Donar, Author and Systems Architect for Enterprise Data Warehouses

Tuning a data warehouse database focuses on large transactions, mostly requiring what is known as throughput. Throughput is the passing of large amounts of information through a server, network and Internet environment, backwards and forwards, constantly! The ultimate objective of a data warehouse is the production of meaningful and useful reporting, from historical and archived data. The trick is to make the reports print within an acceptable time frame. A data model contains tables and relationships between tables. Tuning a data model involves Normalization and Denormalization. Different approaches are required depending on the application, such as OLTP or a Data Warehouse. Inappropriate database design can make SQL code impossible to tune. Poor data modeling can have a most profound effect on database performance since all SQL code is constructed from the data model. \* Takes users beyond basics to critical issues in running most efficient data warehouse applications \* Illustrates how to keep data going in and out in the most productive way possible \* Focus is placed on Data Warehouse performance tuning

Oracle Performance Survival Guide A Systematic Approach to Database Optimization The fast, complete, start-to-finish guide to optimizing Oracle performance Oracle Performance Survival Guide offers a structured, systematic, start-to-finish methodology for optimizing Oracle performance as efficiently as possible. Leading Oracle expert Guy Harrison shows how to maximize your tuning investment by focusing on causes rather than symptoms, and by quickly identifying the areas that deliver the greatest "bang for the buck." Writing for DBAs and developers with all levels of experience, Harrison covers every area of Oracle performance management, from application design through SQL tuning, contention management through memory and physical IO management. He also presents up-to-the-minute guidance for optimizing the performance of the Oracle 11g Release 2. You'll start by mastering Oracle structured performance tuning principles and tools, including techniques for tracing and monitoring Oracle execution. Harrison illuminates the interaction between applications and databases, guides you through choosing tuning tools, and introduces upfront design techniques that lead to higher-performance applications. He also presents a collection of downloadable scripts for reporting on all aspects of database performance. Coverage includes

- “Tuning by layers,” the most effective, highest-value approach to Oracle performance optimization
  - Making the most of Oracle’s core tools for tracing, monitoring, and diagnosing performance
  - Highly efficient database logical and physical design, indexing, transaction design, and API use
  - SQL and PL/SQL tuning, including the use of parallel SQL techniques
  - Minimizing contention for locks, latches, shared memory, and other database resources
  - Optimizing memory and physical disk IO
  - Tuning Real Application Cluster (RAC) databases
- [guyharrison.net](http://guyharrison.net) [informit.com/ph](http://informit.com/ph)

Oracle SQL Tuning with Oracle SQLTXPLAIN Apress

One of the most important challenges faced by Oracle database administrators and Oracle developers is the need to tune SQL statements so that they execute efficiently. Poorly tuned SQL statements are one of the leading causes of substandard database performance and poor response time. SQL statements that perform poorly result in frustration for users, and can even prevent a company from serving its customers in a timely manner. In this book, Mark Gurry shares his in-depth knowledge of Oracle's SQL statement optimizers. Mark's knowledge is the result of many hard-fought tuning battles during his many years of providing Oracle tuning services to clients. Mark provides insights into the workings of the rule-based optimizer that go well beyond what the rules tell you. Mark also provides solutions to many common problems that occur with both the rule-based and cost-based optimizers. In addition to the specific problem/solution scenarios for the optimizers, Mark provides a number of handy SQL tuning tips. He discusses the various optimizer hints, telling you when they can be used to good effect. Finally, Mark discusses the use of the DBMS\_STATS package to manage database statistics, and the use of outlines to specify execution plans for SQL statements in third-party applications that you can't otherwise modify.

Learn through this practical guide to SQL tuning how Oracle's own experts do it, using a freely downloadable tool called SQLTXPLAIN. This new edition has been expanded to include AWR, Oracle 12c Statistics, interpretation of SQL Monitor reports, Parallel execution, and Exadata-related features. Reading this book and using SQL helps you learn to tune even the most complex SQL, and you'll learn to do it quickly, without the huge learning curve usually associated with tuning as a whole. Firmly based in real-world problems, this book helps you reclaim system resources and avoid the most common bottleneck in overall performance, badly tuned SQL. You'll learn how the optimizer works, how to take advantage of its latest features, and when it's better to turn them off. Best of all, the book is updated to cover the very latest feature set in Oracle Database 12c.

Covers AWR report integration  
Helps with SQL Monitor Report Interpretation  
Provides a reliable method that is repeatable  
Shows the very latest tuning features in Oracle Database 12c  
Enables the building of test cases without affecting production

What You'll Learn  
Identify how and why complex SQL has gone wrong  
Correctly interpret AWR reports generated via SQLTXPLAIN  
Collect the best statistics for your environment  
Know when to invoke built-in tuning facilities  
Recognize when tuning is not the solution  
Spot the steps in a SQL statement's execution plan that are critical to performance of that statement  
Modify your SQL to solve

performance problems and increase the speed and throughput of production database systems Who This Book Is For divAnyone who deals with SQL and SQL tuning. Both developers and DBAs will benefit from learning how to use the SQLTXPLAIN tool, and from the problem solving methodology in this book. Oracle system performance inefficiencies often go undetected for months or even years--even under intense scrutiny--because traditional Oracle performance analysis methods and tools are fundamentally flawed. They're unreliable and inefficient.Oracle DBAs and developers are all too familiar with the outlay of time and resources, blown budgets, missed deadlines, and marginally effective performance fiddling that is commonplace with traditional methods of Oracle performance tuning. In this crucial book, Cary Millsap, former VP of Oracle's System Performance Group, clearly and concisely explains how to use Oracle's response time statistics to diagnose and repair performance problems. Cary also shows how "queueing theory" can be applied to response time statistics to predict the impact of upgrades and other system changes.Optimizing Oracle Performance eliminates the time-consuming, trial-and-error guesswork inherent in most conventional approaches to tuning. You can determine exactly where a system's performance problem is, and with equal importance, where it is not, in just a few minutes--even if the problem is several years old.Optimizing Oracle Performance cuts a path through the complexity of current tuning methods, and streamlines an approach that focuses on optimization techniques that any DBA can use quickly and successfully to make noticeable--even dramatic--improvements.For example, the one thing database users care most about is response time. Naturally, DBAs focus much of their time and effort towards improving response time. But it is entirely too easy to spend hundreds of hours to improve important system metrics such as hit ratios, average latencies, and wait times, only to find users are unable to perceive the difference. And an expensive hardware upgrade may not help either.It doesn't have to be that way. Technological advances have added impact, efficiency, measurability, predictive capacity, reliability, speed, and practicality to the science of Oracle performance optimization. Optimizing Oracle Performance shows you how to slash the frustration and expense associated with unraveling the true root cause of any type of performance problem, and reliably predict future performance.The price of this essential book will be paid back in hours saved the first time its methods are used.

Build and manage your Oracle Database XE environment with this fast paced, practical guide

DBAs can instantly optimize their database and applications with STATSPACK and this invaluable resource. Includes ready-to-run scripts.

Here's the book you need to prepare for Oracle's 10g upgrade exam, Oracle Database 10g: New Features for Administrators (1Z0-040). This Study Guide was developed to meet the exacting requirements of today's Oracle certification candidates. In addition to the consistent and accessible instructional approach

that has earned Sybex the "Best Study Guide" selection in CertCities Readers Choice Awards for two consecutive years, this book provides: Clear and concise information on the enhancements included in Oracle 10g Practical examples and insights drawn from the authors' real-world experiences Leading-edge exam preparation software, including a test engine and electronic flashcards You'll also find authoritative coverage of key exam topics, including: Installing and Configuring the Server Loading and Unloading Data Tuning Applications Supporting Analytical Applications Backing Up and Recovering Data Automating Data Storage Management Applying Security Policies Supporting Upgrade Paths to Oracle 10g Look to Sybex for the knowledge and skills needed to succeed in today's competitive IT marketplace. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

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