

# Oracle Performance Tuning



# Oracle Performance Tuning

**Alexey B. Danchenkov**

## Oracle Performance Tuning:

**Oracle Performance Tuning for 10gR2** Gavin JT Powell, 2011-04-08 Tuning of SQL code is generally cheaper than changing the data model Physical and configuration tuning involves a search for bottlenecks that often points to SQL code or data model issues Building an appropriate data model and writing properly performing SQL code can give 100% performance improvement Physical and configuration tuning often gives at most a 25% performance increase Gavin Powell shows that the central theme of Oracle10gR2 Performance Tuning is four fold denormalize data models to fit applications tune SQL code according to both the data model and the application in relation to scalability create a well proportioned physical architecture at the time of initial Oracle installation and most important mix skill sets to obtain the best results Fully updated for version 10gR2 and provides all necessary transition material from version 9i Includes all three aspects of Oracle database tuning data model tuning SQL PL SQL code tuning physical plus configuration tuning Contains experienced guidance and real world examples using large datasets Emphasizes development as opposed to operating system perspective [Oracle Performance Survival Guide](#) Guy Harrison, 2009-10-09 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 informit.com/ph **Oracle Performance Tuning** Mark Gurry, Peter Corrigan, 1996-11 A complete revision of the original title this second edition adds new material on Oracle 7.3 and many Oracle 8 features It explores new Oracle capabilities like parallel server parallel query and distributed database It contains more detail on constraints and triggers many more

examples and information on new tuning tools like the Oracle Performance Pack Oracle Trace and Oracle Expert      **Oracle**  
**Performance Tuning Tips & Techniques** Richard J. Niemiec, 1999-01-01 Tuning skills are in high demand in Oracle communication and this guide gives specific examples to build performance tuning skill sets Database administrators will find helpful hints and useful information to help them get optimal performance from Oracle RDBMS environments      *Oracle SQL Performance Tuning and Optimization* Kevin Meade, 2014-09-16 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      **Database**  
**Performance Tuning and Optimization** Sitansu S. Mittra, 2006-04-18 Scope The book provides comprehensive coverage of database performance tuning and optimization using Oracle 8i as the RDBMS The chapters contain both theoretical discussions dealing with principles and methodology as well as actual SQL scripts to implement the methodology The book combines theory with practice so as to make it useful for DBAs and developers irrespective of whether they use Oracle 8i

Readers who do not use Oracle 8i can implement the principles via scripts of their own written for the particular RDBMS they use I have tested each script for accuracy and have included the sample outputs generated from them An operational database has three levels conceptual internal and external The conceptual level results from data modeling and logical database design When it is implemented via an RDBMS such as Oracle it is mapped onto the internal level Database objects of the conceptual level are associated with their physical counterparts in the internal level An external level results from a query against the database and as such provides a window to the database There are many external levels for a single conceptual level     *Oracle Database 12c Performance Tuning Recipes* Sam Alapati,Darl Kuhn,Bill Padfield,2014-01-21

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

**Oracle Database Performance Tuning Interview Questions, Answers and Explanations** Terry Sanchez,2006-09-01 The Ultimate Reference Learning Guide for Oracle Database Professionals Over 150 Interview Questions Answers and Explanations It's clear that Oracle is the future for enterprise information systems data storage and retrieval but finding the right reference materials can be difficult For the first time over 150 Oracle Database Performance Tuning Certification Questions are here to guide your learning From helping you to assess your Oracle Performance Tuning skills to evaluating candidates for a job Oracle Database Performance Tuning Interview Questions will help you understand very quickly what you really need to know and what you can safely ignore The book is organized around Oracle Database Performance Tuning basics such as root cause analysis database design hit ratios average latencies and wait times Each question includes everything you need to know to master an Oracle Performance Tuning interview or properly evaluate a candidate More than just a rehash of Oracle documentation and sales presentations each question is based on project knowledge and experience gained on successful high profile Oracle implementations Key certification and interview topics include Root cause analysis Analysis of response time statistics Queue theory and the basics of database performance Hit ratios Average latency and wait time improvements

**Oracle Performance Tuning 101** Gaja Krishna

Vaidyanatha,Kirtikumar Deshpande,John Kostelac,2001 Tuning Oracle databases or Oracle Performance Management OPM is what database administrators DBAs do to help the database run optimally With the increase in e commerce and deployment of databases and applications on the Internet the task of keeping databases running is becoming increasingly important This entry level study teaches the essentials of keeping databases running at top performance The guide covers releases 7 3 through 8i for NT Linux and Unix platforms

**Oracle SQL High-performance Tuning** Guy Garrison,Raymond Aron,2001

Canada was young during the First World War and with as many as 20 000 underage soldiers leaving their homes to join the war effort the country s army was too Jim at 17 was one of them and he penned countless letters home But these weren t the writings of an ordinary boy They were the letters of a lad who left a small farming community for the city on July 15 1915 a boy who volunteered to serve with the 79th Queen s Own Cameron Highlanders Jim s letters home gloss over the horrors of war focusing instead on issues of the home front of harvesting training the horses and the price of hogs Rarely do these letters especially those to his mother and father mention the mud and rats the lice and stench of the trenches or the night duty of cutting barbed wire in no man s land For 95 years his letters remained in a shoebox decorated by his mother Jim was just 18 when he was wounded and died during the Battle of the Somme Hold the Oxo tells the story that lies between the lines of his letters filling in the historical context and helping us to understand what it was like to be Jim

*Oracle Tuning*

Alexey B. Danchenkov,2006-02-01 Oracle 10g has become the most complex database ever created and Oracle tuning has become increasingly complex This book provides a complete step by step approach for holistic Oracle tuning and it is the accumulated knowledge from tuning thousands of Oracle databases Incorporating the principles of artificial intelligence Oracle10g has developed a sophisticated mechanism for capturing and tracking database performance over time periods This new complexity has introduced dozens of new v and DBA views plus dozens of Automatic Workload Repository AWR tables The AWR and its interaction with the Automatic Database Diagnostic Monitor ADDM is a revolution in database tuning By understanding the internal workings of the AWR tables the senior DBA can develop time series tuning models to predict upcoming outages and dynamically change the instance to accommodate the impending resource changes This is not a book for beginners Targeted at the senior Oracle DBA this book dives deep into the internals of the v views the AWR table structures and the new DBA history views Packed with ready to run scripts you can quickly monitor and identify the most challenging performance issues

Oracle High Performance Tuning for 9i and 10g Gavin JT Powell,2003-12-29

There are three parts to tuning an Oracle database data modeling SQL code tuning and physical database configuration A data model contains tables and relationships between tables Tuning a data model involves normalization and de normalization 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 Poorly written SQL code is often a culprit of performance problems and is

expensive to rectify However tuning of SQL code is generally cheaper than changing the data model SQL code tends to be contained inside independent blocks within applications or stored procedures Physical database tuning involves hardware resource usage networking and various other Oracle things such as configuration and file distribution Physical configuration is often a culprit of poor performance where Oracle is installed with defaults and never altered by an expert Includes all three aspects of Oracle database tuning data model tuning SQL PL SQL code tuning physical plus configuration tuning Contains experienced guidance and real world examples using large datasets Emphasizes development as opposed to operating system perspective *Oracle PL/SQL Performance Tuning Tips & Techniques* Michael Rosenblum, Paul Dorsey, 2014-08-29

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

**Oracle9i High-Performance Tuning with STATSPACK** Donald K. Burleson, 2002-04-12 DBAs can instantly optimize their database and applications with STATSPACK and this invaluable resource Includes ready to run scripts **The Art and Science of Oracle Performance Tuning** Christopher Lawson, 2003-07 Presents an innovative philosophical approach to Oracle database administration and shows how to think about the whole complex problem of performance tuning how to break it down how to root out the cause of performance bottlenecks Covers all practical aspects of Oracle performance tuning Filled with hands on lessons and accounts Teaches an innovative and effective Physician to Magician approach showing how to understand the problem uncover the root cause and choose and implement the most effective solution **Oracle: Performance Tuning: Tips And Techniques** Niemiec, **Oracle Performance Tuning 101** Vaidyanatha, **Oracle8i & UNIX Performance Tuning** Ahmed Alomari, 2001 The best of more than 50 000 job boards and career sites available on the internet organized by career field

industry and geographic focus is contained in this handy reference for job seekers and recruiters. Topics include how many people come to each site per month, the number of resumes found in each database, the cost to search resumes and post a job, how many jobs are posted on each site, the salary ranges of these jobs, which sites store resumes in their databases and whether or not the site offers automatic notification of a job resume match. With full page profiles of 350 of the best of today's internet employment sites, this is a must have resource for making smart decisions about where to invest time and effort online.

**Oracle Database 11g Performance Tuning Recipes** Sam Alapati, Darl Kuhn, Bill Padfield, 2011-10-17

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.

**Dynamic Oracle Performance Analytics** Roger Cornejo, 2018-12-06

Use an innovative approach that relies on big data and advanced analytical techniques to analyze and improve Oracle Database performance. The approach used in this book represents a step change paradigm shift away from traditional methods. Instead of relying on a few hand picked favorite metrics or wading through multiple specialized tables of information such as those found in an automatic workload repository (AWR) report, you will draw on all available data applying big data methods and analytical techniques to help the performance tuner draw impactful focused performance improvement conclusions. This book briefly reviews past and present practices along with available tools to help you recognize areas where improvements can be made. The book then guides you through a step by step method that can be used to take advantage of all available metrics to identify problem areas and work toward improving them. The method presented simplifies the tuning process and solves the problem of metric overload. You will learn how to collect and normalize data, generate deltas that are useful in performing statistical analysis, create and use a taxonomy to enhance your understanding of problem performance areas in your database and its applications, and create a root cause analysis report that enables understanding of a specific performance problem and its likely solutions. What You'll Learn: Collect and prepare metrics for analysis from a wide array of sources. Apply statistical techniques to select relevant metrics. Create a taxonomy to provide additional insight into problem

areas Provide a metrics based root cause analysis regarding the performance issue Generate an actionable tuning plan prioritized according to problem areas Monitor performance using database specific normal ranges Who This Book Is For Professional tuners responsible for maintaining the efficient operation of large scale databases who wish to focus on analysis who want to expand their repertoire to include a big data methodology and use metrics without being overwhelmed who desire to provide accurate root cause analysis and avoid the cyclical fix test cycles that are inevitable when speculation is used

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