

## Optimizer with Oracle Database 12c Release 2

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# Optimizer Adaptive Features In Oracle Database 12c Release 2

**Ensheng Dong**



## **Optimizer Adaptive Features In Oracle Database 12c Release 2:**

*Oracle Database 12c Release 2 Performance Tuning Tips & Techniques* Richard Niemiec, 2017-03-22 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

**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 Problem Solving and Troubleshooting Handbook Tariq Farooq, Mike Ault, Paulo Portugal, Mohamed Hourri, Syed Jaffar Hussain, Jim Czuprynski, Guy Harrison, 2016-04-04 An Expert Guide for Solving Complex Oracle Database Problems Oracle Database Problem Solving and Troubleshooting Handbook delivers comprehensive practical and up to date advice for running the Oracle Database reliably and efficiently in complex production environments Seven leading Oracle experts have brought together an unmatched collection of proven solutions hands on examples and step by step tips for Oracle Database 12c 11g and other recent versions of Oracle Database Every solution is crafted to help experienced Oracle DBAs and DMAs understand and fix serious problems as rapidly as possible The authors cover LOB segments UNDO

tablespaces high GC buffer wait events poor query response times latch contention indexing XA distributed transactions RMAN backup recovery and much more They also offer in depth coverage of a wide range of topics including DDL optimization VLDB tuning database forensics adaptive cursor sharing data pumps data migration SSDs indexes and how to go about fixing Oracle RAC problems Learn how to Choose the quickest path to solve high impact problems Use modern best practices to make your day more efficient and predictable Construct your Call 9 1 1 plan for future database emergencies Proactively perform maintenance to improve your environment s stability Save time with industry standard tools and scripts Register your product at informit com register for convenient access to downloads updates and corrections as they become available

**Comprehensive Oracle Database Management: Strategies for Performance Tuning and System Optimization** Adam Jones,2025-01-03 Comprehensive Oracle Database Management Strategies for Performance Tuning and System Optimization is an indispensable resource for mastering the intricate realm of Oracle Database administration This book offers extensive insights into the essential techniques and methodologies required to boost the performance reliability and scalability of Oracle systems From grasping the nuances of database architecture and SQL query optimization to mastering sophisticated indexing and efficient memory management this all encompassing guide leaves no stone unturned Aimed at seasoned database administrators system architects and developers this meticulously structured book not only elucidates fundamental concepts but also delves into advanced topics such as concurrency locking mechanisms and intricate diagnostics Each chapter is designed to build progressively upon the previous one ensuring a comprehensive and coherent grasp of effective Oracle Database management Whether you re preparing for advanced Oracle certifications or seeking to resolve critical performance bottlenecks in enterprise environments this book provides a trove of knowledge best practices and expert techniques to achieve optimal database performance Arm yourself with the expertise and tools necessary to adeptly navigate and optimize sophisticated Oracle Database systems Unlock the full potential of your database with Comprehensive Oracle Database Management Strategies for Performance Tuning and System Optimization

**OCPU**  
**Upgrade to Oracle Database 12c Exam Guide (Exam 1Z0-060)** Sam R. Alapati,2014-06-13 A Fully Integrated Study System for OCP Exam 1Z0 060 Prepare for the Oracle Certified Professional Upgrade to Oracle Database 12c exam with this exclusive Oracle Press guide Each chapter features step by step examples a certification summary a two minute drill and a self test to reinforce the topics presented This authoritative resource helps you pass the exam and also serves as an essential on the job reference Get complete coverage of the new features of Oracle Database 12c including Oracle Enterprise Manager Database Express and additional tools for database monitoring Multitenant container databases and pluggable databases Auditing administrative privileges data redaction and other Oracle security features Adaptive execution plans adaptive statistics and automatic SQL plan management Oracle Recovery Manager backup and recovery improvements Oracle Database Resource Manager and other performance enhancements Oracle Data Pump SQL Loader external tables and online

operations enhancements Improvements to information lifecycle management and storage including automatic data optimization in database archiving and temporal validity Electronic content includes 170 practice exam questions with detailed answer explanations

**Oracle SQL Tuning with Oracle SQLTXPLAIN** Stelios Charalambides,2017-04-05 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 Database Upgrade and Migration Methods** Y V Ravikumar,K M Krishnakumar,Nassyam Basha,2017-03-01 Learn all of the available upgrade and migration methods in detail to move to Oracle Database version 12c You will become familiar with database upgrade best practices to complete the upgrade in an effective manner and understand the Oracle Database 12c patching process So it s time to upgrade Oracle Database to version 12c and you need to choose the appropriate method while considering issues such as downtime This book explains all of the available upgrade and migration methods so you can choose the one that suits your environment You will be aware of the practical issues and proactive measures to take to upgrade successfully and reduce unexpected issues With every release of Oracle Database there are new features and fixes to bugs identified in previous versions As each release becomes obsolete existing databases need to be upgraded Oracle Database Upgrade and Migration Methods explains each method along with its strategy requirements steps and known issues that have been seen so far This book also compares the methods to help you choose the proper method according to your constraints Also included in this book Pre requisite patches and pre upgrade steps Patching to perform changes at the binary and database level to apply bug fixes What You Will Learn Understand the need and importance of database

upgrading and migration Be aware of the challenges associated with database upgrade decision making Compare all upgrade migration methods Become familiar with database upgrade best practices and recommendations Understand database upgrade concepts in high availability and multi tenant environments Know the database downgrade steps in case the upgraded database isn't compatible with the environment Discover the features and benefits to the organization when it moves from the old database version to the latest database version Understand Oracle 12c patching concepts Who This Book Is For Core database administrators solution architects business consultants and database architects **Oracle 12c**

**Release 2 New Features & The Oracle Cloud**, 2017 Explore some of the most interesting new features of Oracle 12c Release 2 and learn everything you need to know to create and connect to an Oracle database in the Oracle Cloud platform

Oracle Database 12c Release 2 Testing Tools and Techniques for Performance and Scalability Jim Czuprynski, Deiby Gomez, Bert Scalzo, 2017-10-05 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 Oracle Database 12c New Features Robert G. Freeman, 2013-12-13 Maximize the New and Improved Features of Oracle Database 12c Written by Master Principle Database Expert Oracle and Oracle ACE Robert G Freeman this Oracle Press guide describes the myriad new and enhanced capabilities available in the latest Oracle Database release Inside you'll find everything you need to know to get up and running quickly on Oracle Database 12c Supported by running commentary from world renowned Oracle expert Tom Kyte and with additional contributions by Oracle experts Eric Yen and Scott Black Oracle Database 12c New Features offers detailed coverage of Installing Oracle Database 12c Architectural changes such as Oracle Multitenant The most current information on upgrading and migrating to Oracle Database 12c The pre upgrade information tool and parallel processing for database upgrades Oracle Real Application Clusters new features such as Oracle Flex Cluster Oracle Flex Automatic Storage Management and Oracle Automatic Storage

Management Cluster File System Oracle RMAN enhancements including cross platform backup and recovery Oracle Data Guard improvements such as Fast Sync and Oracle Active Data Guard new features such as Far Sync SQL PL SQL DML and DDL new features Improvements to partitioning manageability performance and availability Advanced business intelligence and data warehousing capabilities Security enhancements including privileges analysis data redaction and new administrative level privileges Manageability performance and optimization improvements

**Oracle 12c Release 2 New Features & The Oracle Cloud** David Yahalom,2017 *Oracle Database 12c Release 2 New Features* Bob Bryla,Robert G. Freeman,2017-04-24 Leverage the New and Improved Features of Oracle Database 12c Written by Oracle experts Bob Bryla and Robert G Freeman this Oracle Press guide describes the myriad new and enhanced capabilities available in the latest Oracle Database release Inside you ll find everything you need to know to get up and running quickly on Oracle Database 12c Release 2 Supported by contributions from Oracle expert Eric Yen Oracle Database 12c Release 2 New Features offers detailed coverage of Installing Oracle Database 12c and Grid Infrastructure Architectural changes such as Oracle Multitenant The most current information on upgrading and migrating to Oracle Database 12c The pre upgrade information tool and parallel processing for database upgrades Oracle Real Application Clusters new features such as Oracle Flex Cluster Oracle Flex Automatic Storage Management and Oracle Automatic Storage Management Cluster File System Enhanced and new online operations tables indexes and PDBs Oracle RMAN enhancements including cross platform backup and recovery Oracle Data Guard improvements such as Fast Sync and Oracle Active Data Guard new features such as Far Sync SQL PL SQL DML and DDL new features Improvements to partitioning manageability performance and availability Advanced business intelligence and data warehousing capabilities Security enhancements including privileges analysis data redaction and new administrative level privileges Manageability performance and optimization improvements

**Oracle Database 12c Release 2 In-Memory: Tips and Techniques for Maximum Performance** Joyjeet Banerjee,2017-02-22 Master Oracle Database 12c Release 2 s powerful In Memory option This Oracle Press guide shows step by step how to optimize database performance and cut transaction processing time using Oracle Database 12c Release 2 In Memory Oracle Database 12c Release 2 In Memory Tips and Techniques for Maximum Performance features hands on instructions best practices and expert tips from an Oracle enterprise architect You will learn how to deploy the software use In Memory Advisor build queries and interoperate with Oracle RAC and Multitenant A complete chapter of case studies illustrates real world applications Configure Oracle Database 12c and construct In Memory enabled databases Edit and control In Memory options from the graphical interface Implement In Memory with Oracle Real Application Clusters Use the In Memory Advisor to determine what objects to keep In Memory Optimize In Memory queries using groups expressions and aggregations Maximize performance using Oracle Exadata Database Machine and In Memory option Use Swingbench to create data and simulate real life system workloads

*Oracle SQL Tuning with Oracle SQLTXPLAIN* Stelios Charalambides,2013-04-13

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

**Oracle 12c New Features, Part I LiveLessons** James Czuprynski, 2015 4 Hours of Video Instruction Overview In the wake of the release of Oracle Database 12c R1 and its most recent upgrade 12.1.0.2 many IT organizations are at last turning their attention to evaluating experimenting with and implementing the myriad features of this latest release Description Oracle ACE Director Jim Czuprynski demonstrates how to take advantage of these new features to Speed query execution Conserve disk space Implement true storage tiering Manage maintenance of partitioned objects effectively Perform database backups and recovery quickly and efficiently About the Instructor Jim Czuprynski's information technology experience spans three decades He served in diverse roles at several Fortune 1000 companies as a mainframe programmer applications developer business analyst and project manager before becoming an Oracle DBA in 2001 He currently holds OCP certification for Oracle 9i 10g and 11g He was awarded the status of Oracle ACE Director in March 2014 Jim writes regularly about the myriad facets of Oracle database administration with over a hundred articles to his credit since 2003 Find them at [databasejournal.com](http://databasejournal.com) and [ioug.org](http://ioug.org) Jim's blog Generally It Depends <http://jimczuprynski.wordpress.com> is a series of observations on all things Oracle Jim is also a sought after public speaker on Oracle Database technology features He has presented topics at Oracle OpenWorld IOUG's COLLABORATE Hotsos Symposium Oracle Technology Network ACE Tours and Oracle User Group conferences around the world He has taught the core Oracle University database administration courses on behalf of Oracle and its Education Partners throughout the United States and Canada instructing several hundred Oracle DBAs since 2005 He was selected as Oracle Education Partner/Instructor of the Year in 2009 Skill Level Intermediate What You Will Learn Understand how the In Memory features of Oracle Database 12.1.0.2 In Memory Column Store In Memory Joins and In Memory Aggregation offer potential improvements of one to two orders of magnitude especially for data warehousing queries without changing any application code Discover how to implement Oracle Database 12c's new Information Lifecycle Management ILM features and leverage them to improve flash and spinning disk storage allocation and query response time while simultaneously establishing viable strategies for data obsolescence Understand how the query optimizer has been

[Troubleshooting Oracle Performance](#) Christian Antognini, 2014-06-14 [Troubleshooting Oracle Performance](#) 2nd Edition is your systematic guide to diagnosing and resolving performance problems in database backed applications involving Oracle's database engine Christian Antognini

brings a decade and a half experience to his topic His first edition is one of the most well respected books in its field This second edition has been rigorously updated to cover the latest developments in Oracle Database 11g Release 2 through Oracle Database 12c What do you do when your database application isn't running fast enough You troubleshoot of course Finding the slow part of an application is often the easy part of the battle It's finding a solution that's difficult Troubleshooting Oracle Performance 2nd Edition helps by providing a systematic approach to addressing the underlying causes of poor database application performance The author freely shares his experience while explaining the underlying foundations of how SQL statements are executed by the Oracle database engine You'll be able to draw a solid foundation of theory and shared experience as you face head on the performance challenges in your daily work Written for developers by an application developer who has learned by doing Gives a systematic approach to solving database application performance problems Helps you plan for performance as you would for any other application requirement **Oracle 12c New Features** James Czuprynski, 2015 In the wake of the release of Oracle Database 12c R1 and its most recent upgrade 12.1.0.2 many IT organizations are at last turning their attention to evaluating experimenting with and implementing the myriad features of this latest release Resource description page **Oracle Database 12c Performance Tuning Recipes** Sam Alapati, Darl Kuhn, Bill Padfield, 2013-12-03 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 What you'll learn Optimize the use of memory and storage Monitor performance and troubleshoot problems Identify and improve poorly performing SQL statements Adjust the most important optimizer parameters to your advantage Create indexes that get used and make a positive impact upon performance Automate and stabilize using key features such as SQL Tuning Advisor and SQL Plan Baselines Who this book is for Oracle Database 12c Performance Tuning Recipes is aimed squarely at Oracle Database administrators The book especially appeals to those administrators desiring to have at their side a ready to go set of solutions to common database performance problems Table of Contents Optimizing Table Performance Choosing and Optimizing Indexes Optimizing

Instance Memory Monitoring System Performance Minimizing System Contention Analyzing Operating System Performance Troubleshooting the Database Creating Efficient SQL Manually Tuning SQL Tracing SQL Execution Automated SQL Tuning Execution Plan Optimization and Consistency Configuring the Optimizer Implementing Query Hints Executing SQL in Parallel

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 12c New Features* Asim Chowdhury, 2017-02-21 This book is for enthusiasts who would like to know 12c new features with real life examples This book expanded the following features of 12c SQL Row limiting clause expand sqltext of a view internal parser rewritten sql Invisible column session level sequence extended data type truncate with cascade option default value for NULL column auto populate column using sequence and identity type advanced index compression Lateral cross apply outer apply multiple index on a column match\_recognize clause for inter rows pattern In memory column store etc For 12c PL SQL it has expanded the following features WITH clause improvement PRAGMA UDF REDACTION BEQUEATH clause Restructuring error stack and backtrace enhancement in PL SQL specific data type support in NDS binding white listing by means of accessible by clause Invoker right code using result\_cache improvement in conditional compilation granting role to stored subprogram instead of user etc For 12c ADMINISTRATION it has expanded the following features Adaptive query optimization and online stats gathering faster online table column addition DDL LOGGING adding multiple new partition global temporary table enhancement stats gathering improvement heat map

improvement in auditing using flashback improvement in tracking security sensitive tables import export of version history free flashback archive and optimize option Multitenant container database with Pluggable database option etc While explaining only 12c new features I have tried to provide alternative approach prior to 12c also so that the reader can understand the concept with an ease Hope this 75 pages book will help immensely to learn all the 12c new features and help the reader to use the features in real life confidently

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