

Oracle Database Performance And Scalability A Quantitative Approach

Big data has more disruptive potential than any information technology developed in the past 40 years. As author Jeffrey Needham points out in this revealing book, big data can provide unprecedented visibility into the operational efficiency of enterprises and agencies. *Disruptive Possibilities* provides an historically-informed overview through a wide range of topics, from the evolution of commodity supercomputing and the simplicity of big data technology, to the ways conventional clouds differ from Hadoop analytics clouds. This relentlessly innovative form of computing will soon become standard practice for organizations of any size attempting to derive insight from the tsunami of data engulfing them. Replacing legacy silos—whether they're infrastructure, organizational, or vendor silos—with a platform-centric perspective is just one of the big stories of big data. To reap maximum value from the myriad forms of data, organizations and vendors will have to adopt highly collaborative habits and methodologies.

Praise from the Reviewers: "The practicality of the subject in a real-world situation distinguishes this book from others available on the market." —Professor Behrouz Far, University of Calgary "This book could replace the computer organization texts now in use that every CS and CpE student must take. . . . It is much needed, well written, and thoughtful." —Professor Larry Bernstein, Stevens Institute of Technology

A distinctive, educational text on software performance and scalability

This is the first book to take a quantitative approach to the subject of software performance and scalability. It brings together three unique perspectives to demonstrate how your products can be optimized and tuned for the best possible performance and scalability:

- The Basics**—introduces the computer hardware and software architectures that predetermine the performance and scalability of a software product as well as the principles of measuring the performance and scalability of a software product
- Queuing Theory**—helps you learn the performance laws and queuing models for interpreting the underlying physics behind software performance and scalability, supplemented with ready-to-apply techniques for improving the performance and scalability of a software system
- API Profiling**—shows you how to design more efficient algorithms and achieve optimized performance and scalability, aided by adopting an API profiling framework (*perfBasic*) built on the concept of a performance map for drilling down performance root causes at the API level

Software Performance and Scalability gives you a specialized skill set that will enable you to design and build performance into your products with immediate, measurable improvements. Complemented with real-world case studies, it is an indispensable resource for software developers, quality and performance assurance engineers, architects, and managers. It is an ideal text for university courses related to computer and software performance evaluation and can also be used to supplement a course in computer organization or in queuing theory for upper-division and graduate computer science students.

Forecasting Oracle Performance is the first Oracle-specific book to assist DBAs with forecasting future performance of new and existing database systems. It shows you how to create a model of a database system. Different types of models are introduced: mathematical, simulation, and benchmark. You'll learn how to create the right model for

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the risks you seek to mitigate and how to validate your model. Then you'll discover how to interpret results in the form of a forecast. In total, this book gives you everything you need to confidently work with business management in preparing for the future of your systems.

In successive versions of Oracle Database, Oracle has been simplifying the work of customers in standardising, consolidating and automating database services, including the cloud. Oracle allows data scientists, analysts and developers to accelerate machine learning and data science projects. It is possible to eliminate data preparation and duplication, process large data sets faster, and take full advantage of the Oracle Cloud Infrastructure platform by moving algorithms into the database. This book delves into the creation, configuration and advanced administration of databases through the relational language ORACLE SQL. The tasks are illustrated with practical exercises to make database work more comprehensible. The content deals with the design of relational databases and the use of the data definition language, the data manipulation language and the transaction control language. It also deals with database retrieval, security administration, authentication and user administration, administration of privileges, roles and profiles. It focuses on oracle data protection mechanisms, enabling media recovery, database backup (BACKUP) with Recovery Manager (RMAN), database recovery with RMAN and other advanced ORACLE administration media. 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

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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.

Tom Kyte of Oracle Magazine's "Ask Tom" column has written the definitive guide to designing and building high-performance, scalable Oracle applications. The book covers schema design, SQL and PL/SQL, tables and indexes, and much more. From the exclusive publisher of Oracle Press books, this is a must-have resource for all Oracle developers and DBAs.

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 Core: Essential Internals for DBAs and Developers by Jonathan Lewis provides just the essential information about Oracle Database internals that every database administrator needs for troubleshooting—no more, no less. Oracle Database seems complex on the surface. However, its extensive feature set is really built upon upon a core infrastructure resulting from sound architectural decisions made very early on that have stood the test of time. This core infrastructure manages transactions and the ability to commit and roll back changes, protects the integrity of the database, enables backup and recovery, and allows for scalability to thousands of users all accessing the same data. Most performance, backup, and recovery problems that database administrators face on a daily basis can easily be identified through understanding the essential core of Oracle Database architecture that Lewis describes in this book.

Provides proven content from a world-renowned performance and troubleshooting expert Emphasizes the significance of internals knowledge to rapid identification of database performance problems Covers the core essentials and does not waste your time with esoterica

Master Oracle Real Application Clusters Maintain a dynamic enterprise computing infrastructure with expert instruction from an Oracle ACE. Oracle Database 11g Oracle Real

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Application Clusters Handbook, Second Edition has been fully revised and updated to cover the latest tools and features. Find out how to prepare your hardware, deploy Oracle Real Application Clusters, optimize data integrity, and integrate seamless failover protection. Troubleshooting, performance tuning, and application development are also discussed in this comprehensive Oracle Press guide. Install and configure Oracle Real Application Clusters Configure and manage diskgroups using Oracle Automatic Storage Management Work with services, voting disks, and Oracle Clusterware Repository Look under the hood of the Cache Fusion and Global Resource Directory operations in Oracle Real Applications Clusters Explore the internal workings of backup and recovery in Oracle Real Application Clusters Employ workload balancing and the Transparent Application Failover feature of an Oracle database Get complete coverage of Stretch Clusters, also known as Metro Clusters Troubleshoot Oracle Clusterware using the most advanced diagnostics available Develop custom Oracle Real Application Clusters applications

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.

As open systems continue to replace traditional mainframe systems, system scalability is becoming an increasingly important topic. This guide offers techniques for designing reliable and scalable online transaction processing (OLTP) applications using Oracle. It covers hardware and I/O operation; benchmark and database monitoring systems; Oracle internals, operation, and implementation; and UNIX operating system issues that impact Oracle performance and scalability. The CD-ROM contains source code for dbaman, code examples, and public domain software. Annotation copyrighted by Book News, Inc., Portland, OR "Offers hundreds of hints, tips, and tricks of the trade that can be useful to any DBA wanting to achieve maximum performance of Oracle applications. No Oracle library would be complete without this book." --Ken (Dr. DBA) Jacobs, Vice President of Product Strategy for Server Technologies, Oracle Corporation "Rich is the first and last stop for Oracle Database technology and performance tuning. His knowledge is a vital tool that you need to successfully negotiate the waters of Oracle database development." --Mike Frey, Principal Architect, Navteq This Oracle-authorized handbook explains how to tune Oracle applications systems for maximum efficiency. Written by a Senior Principal of the Oracle Applications Performance Group, the book offers the latest expert techniques and covers Oracle Applications Smart Client through Release 11i.

In clearly written chapters you will be guided through different aspects of Oracle Application Express. Varying from setting up your environment to maximizing SQL and PL/SQL. Examples are given based on a simple but appealing case. This book is filled with best practices on how to make the most of Oracle APEX. Developers beginning with application development as well as those who are experienced will benefit from this book. You will need to have basic knowledge of SQL and PL/SQL to follow the examples in this book.

This book shows you how to master Application Express to build effective web-based Oracle database applications. The author provides hands-on, step-by-step guidance on the complete development process, through creating, customizing, and extending the application. In addition to presenting how to build a simple application, this guide also details reporting and charting,

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themes and templates, and security. Additionally, it demonstrates how to use packaged applications and how to work with multiple applications. Data migration and integration with the Oracle environment is also discussed.

The definitive book and eBook guide to Oracle information integration and migration in a heterogeneous world.

What makes seasoned IT professionals run for cover? Answer: Forecasting Oracle Performance! Craig Shallahamer is an Oracle performance expert with over 18 years of experience. His book is the first to focus not on the problem of solving today's problem, but squarely on the problem of forecasting the future performance of an Oracle database. Other Oracle performance books are good for putting out fires; Craig's book helps you avoid all the heat in the first place. If you're an IT practitioner who appreciates application over mathematical proofs than you'll be pleasantly surprised! Each chapter is filled with examples to transform the theory, mathematics, and methods into something you can practically apply. Craig's goal is to teach you about real-world Oracle performance forecasting. Period. There is no hidden agenda. This book is a kind of training course. After reading, studying, and practicing the material covered in this book, you to be able to confidently, responsibly, and professionally forecast performance and system capacity in a wide variety of real-life situations. If you are more management-minded (or want to be), you will be delighted with the service level management focus. Forecasting makes good business sense because it maximizes the return on IT investment and minimizes unplanned down time. To those who think forecasting is a waste of money: well...obviously, they've never been on the evening news because their company lost millions of dollars in revenue and brand destruction because of poorly performing or unavailable systems. Without a doubt, you will be equipped to deal with the realities of forecasting Oracle performance. But this book gives you more. Not only will you receive a technical and mathematical perspective, but also a communication, a presentation, and a management perspective. This is career building stuff and immensely satisfying! What you'll learn This book is a "how-to" book filled with examples to transform theory and mathematics into something you can practically apply. You will learn how to use a variety of forecasting models, which will enable you to methodically: Help manage service levels from a business value perspective Identify the risk of over utilized resources Predict what component of an architecture is at risk Predict when a system will be at risk Develop multiple risk mitigating strategies to ensure service levels are maintained Characterize a complex Oracle workload Who this book is for IT professionals who must ensure their production Oracle systems are meeting service levels, in part, through forecasting performance, identifying risk, and developing solutions to ensure systems are available without wasting budget. Readers include database administrators, IT managers, developers, capacity planners, systems architects, systems integrators.

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

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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 Expert Oracle Indexing and Access Paths 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.

Data intensive science is offering new challenges and opportunities for Information Technology and traditional relational databases in particular. Database filesystems offer the potential to store Level Zero data and analyze Level 1 and Level 3 data within the same database system [2]. Scientific data is typically composed of both unstructured files and scalar data. Oracle SecureFiles is a new database filesystem feature in Oracle Database 11g that is specifically engineered to deliver high performance and scalability for storing unstructured or file data inside the Oracle database. SecureFiles presents the best of both the filesystem and the database worlds for unstructured content. Data stored inside SecureFiles can be queried or written at performance levels comparable to that of traditional filesystems while retaining the advantages of the Oracle database.

The innovative performance and scalability features with each newer edition of the Oracle database system can present challenges for users. This book teaches software developers and students how to effectively deal with Oracle performance and scalability issues throughout the entire life cycle of developing Oracle-based applications. Using real-world case studies to deliver key theories and concepts, the book introduces highly dependable and ready-to-apply performance and scalability optimization techniques, augmented with Top 10 Oracle Performance and Scalability Features as well as a supplementary support website.

GoldenGate exchanges data among systems in a timely manner and meets the demand for real-time access to information regardless of volume. The new release, 12c, includes an optimized database, intelligent and integrated delivery capabilities, expanded heterogeneity, and tighter security. Perform zero downtime data migration to on-premise or public cloud with GoldenGate's feature-rich portfolio. Start with the installation and learn the design concepts and enhanced configuration of GoldenGate 12c. Exploit new 12c features to successfully implement GoldenGate on your enterprise. Dive deep into configuring GoldenGate for high availability, DDL support, and reverse processing. Build fast, secure, robust, scalable technical solutions by tuning data delivery and networks. Finally, enrich your data replication knowledge by learning the troubleshooting tips.

Succeed in managing Oracle Application Express (APEX) environments. This book focuses on creating the right combination of scalability, high-availability, backup and recovery, integrity, and resource control. The book covers everything from simple to enterprise-class deployments, with emphasis on enterprise-level requirements and coverage of cloud and hybrid-cloud scenarios. Many books cover how to develop applications in Oracle APEX. It's a

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tool with a fast-growing user-base as developers come to know how quick and easy it is to create new applications that run in a browser. However, just getting an application off the ground is only a small part of a bigger picture. Applications must be supported. They must be available when users need them. They must be robust against disaster and secure against malicious attack. These are the issues addressed in Oracle Application Express Administration. These are the issues that when tackled successfully lead to long term success in using Oracle APEX as a rapid application-development toolset. Readers of this book learn how to install the Oracle APEX engine in support of small-scale projects such as at the departmental level, and in support of enterprise-level projects accessed by thousands of users across dozens of time zones. Readers learn to take advantage of Oracle Database's underlying feature set in regards to application scalability and performance, integrity, security, high-availability, and robustness against failure and data loss. Oracle Application Express Administration also describes different cloud solutions, integration with Oracle E-Business Suite, and helps in taking advantage of multitenancy in Oracle Database 12c and beyond. Covers important enterprise considerations such as scalability, robustness, high-availability. Describes cloud-based application deployment scenarios Focuses on creating the right deployment environment for long-term success What You Will Learn Install, upgrade, and configure robust APEX environments Back up and recover APEX applications and their data Monitor and tune the APEX engine and its applications Benefit from new administration features in APEX 5.0 Run under multi-tenant architecture in Oracle Database 12c Manage the use of scarce resources with Resource Manager Secure your data with advanced security features Build high-availability into your APEX deployments Integrate APEX with Oracle E-Business Suite Who This Book Is For Architects, administrators, and developers who want to better understand how APEX works in a corporate environment. Readers will use this book to design deployment architectures around Oracle Database strengths like multi-tenancy, resource management, and high availability. The book is also useful to administrators responsible for installation and upgrade, backup and recovery, and the ongoing monitoring of the APEX engine and the applications built upon it.

Focusing primarily on the new features of SQL Server 2000, this informative overview draws on real-world examples and situations to demonstrate how to use the security features, replication, backup procedures, data warehousing, and optimization techniques of SQL 2000 and is accompanied by a companion CD-ROM that contains sample code, along with scripts and utilities for day-to-day DBA jobs. Original. (Intermediate)

Oracle Database Performance and Scalability A Quantitative Approach John Wiley & Sons
The traditional division of labor between the database (which only stores and manages SQL and XML data for fast, easy data search and retrieval) and the application server (which runs application or business logic, and presentation logic) is obsolete. Although the book's primary focus is on programming the Oracle Database, the concepts and techniques provided apply to most RDBMS that support Java including Oracle, DB2, Sybase, MySQL, and PostgreSQL. This is the first book to cover new Java, JDBC, SQLJ, JPublisher and Web Services features in Oracle Database 10g Release 2 (the coverage starts with Oracle 9i Release 2). This book is a must-read for database developers audience (DBAs, database applications developers, data architects), Java developers (JDBC, SQLJ, J2EE, and OR Mapping frameworks), and to the emerging Web Services assemblers. Describes pragmatic solutions, advanced database applications, as well as provision of a wealth of code samples. Addresses programming models which run within the database as well as programming models which run in middle-tier or client-tier against the database. Discusses languages for stored procedures: when to use proprietary languages such as PL/SQL and when to use

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standard languages such as Java; also running non-Java scripting languages in the database. Describes the Java runtime in the Oracle database 10g (i.e., OracleJVM), its architecture, memory management, security management, threading, Java execution, the Native Compiler (i.e., NCOMP), how to make Java known to SQL and PL/SQL, data types mapping, how to call-out to external Web components, EJB components, ERP frameworks, and external databases. Describes JDBC programming and the new Oracle JDBC 10g features, its advanced connection services (pooling, failover, load-balancing, and the fast database event notification mechanism) for clustered databases (RAC) in Grid environments. Describes SQLJ programming and the latest Oracle SQLJ 10g features , contrasting it with JDBC. Describes the latest Database Web services features, Web services concepts and Services Oriented Architecture (SOA) for DBA, the database as Web services provider and the database as Web services consumer. Abridged coverage of JPublisher 10g, a versatile complement to JDBC, SQLJ and Database Web Services.

IBM® is a Platinum level Partner in the Oracle Partner Network, which delivers the proven combination of industry insight, extensive real-world Oracle applications experience, deep technical skills, and high-performance servers and storage to create a complete business solution with a defined return on investment. From application selection, purchase, and implementation to upgrade and maintenance, we help organizations reduce the total cost of ownership and the complexity of managing their current and future applications environment while building a solid base for business growth. Oracle Database running on Linux is available for deployment on IBM LinuxONE by using Redhat Enterprise Linux (RHEL) or SUSE Linux Enterprise Server (SLES). This enterprise-grade solution is designed to add value to Oracle Database solutions. This IBM Redpaper® publication focuses on accepted good practices for installing and getting started by using Oracle Database, which provides you with an environment that is optimized for performance, scalability, flexibility, and ease-of-management.

* Only book on the market to actually show you how to build an Oracle RAC cluster on Linux. * Author expertise & quality: Steve Shaw's Hammerora project is one of the most visited sites in SourceForge.net. Julian Dyke is Chair of UK Oracle User Group RAC SIG and a member of the Oak Table Network. * Based on latest Oracle release (10g R2) which we anticipate being the release where the largest number of customers migrate from existing single instance databases to RAC clusters. * Linux is highest growth sector in relational database market and Oracle has 69% of that market (Gartner).

Annotation Thousands of organizations are virtualizing large-scale Oracle database systems. But, until now, reliable best practices have been hard to find, and database and virtualization professionals have often brought differing and incompatible perspectives to the challenge. Now, there's a comprehensive best practice guide reflecting deep understanding of both Oracle and vSphere, and supported by extensive in-the-field experience with the full spectrum of applications and environments.

The Data Access Handbook Achieving Optimal Database Application Performance and Scalability John Goodson • Robert A. Steward Drive breakthrough database application performance by optimizing middleware and connectivity Performance and scalability are more critical than ever in today's enterprise database applications, and traditional

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database tuning isn't nearly enough to solve the performance problems you are likely to see in those applications. Nowadays, 75-95% of the time it takes to process a data request is typically spent in the database middleware. Today's worst performance and scalability problems are generally caused by issues with networking, database drivers, the broader software/hardware environment, and inefficient coding of data requests. In *The Data Access Handbook*, two of the world's leading experts on database access systematically address these issues, showing how to achieve remarkable improvements in performance of real-world database applications. Drawing on their unsurpassed experience with every leading database system and database connectivity API, John Goodson and Rob Steward reveal the powerful ways middleware affects application performance and guide developers with designing and writing API code that will deliver superior performance in each leading environment. In addition to covering essential concepts and techniques that apply across database systems and APIs, they present many API examples for ODBC, JDBC, and ADO.NET as well as database system examples for DB2, Microsoft SQL Server, MySQL, Oracle, and Sybase. Coverage includes

- Clearly understanding how each component of database middleware can impact performance and scalability
- Writing database applications to reduce network traffic, limit disk I/O, optimize application-to-driver interaction, and simplify queries—including examples for ODBC, JDBC, and ADO.NET
- Managing connections, transactions, and SQL statement execution more efficiently
- Making the most of connection and statement pooling
- Writing good benchmarks to predict your application's performance
- Systematically resolving performance problems—including eight start-to-finish case-study examples

If you're a software architect, system designer, or database application developer, *The Data Access Handbook* will be your most indispensable database application performance resource. It's the one book that focuses on the areas where you can achieve the greatest improvements—whether you're designing new database applications or troubleshooting existing ones. John Goodson is vice president and general manager of the DataDirect division of Progress Software, a leader in data connectivity and mainframe integration. For 20 years, he has worked with Sun, Microsoft, and others to develop database connectivity standards such as J2EE, JDBC, ODBC, and ADO. He served on the ANSI H2 committee that built the SQL standard and now participates in the JDBC Expert Group and Java Rowsets standards committees. Rob Steward, vice president of R&D at the DataDirect division of Progress Software, is responsible for the development, strategy, and oversight of the company's data connectivity products. Rob has spent the past 15 years developing high-performing database driver and data providers, including ODBC, JDBC, and ADO.NET. Both authors have spoken on database application performance at many industry events. Visit www.dataaccesshandbook.com to get the code examples presented in this book and other supplemental information for DB2, MicrosoftSQL Server, MySQL, Oracle, and Sybase.

Gain sharp insights into your data and solve real-world data science problems with R—from data munging to modeling and visualization

About This Book Handle your data with precision and care for optimal business intelligence

Restructure and transform your data to inform decision-making

Packed with practical advice and tips to help you get to grips with data mining

Who This Book Is For If you are a data scientist or R developer who wants to explore and optimize your use of R's advanced features and tools, this is

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the book for you. A basic knowledge of R is required, along with an understanding of database logic. What You Will Learn Connect to and load data from R's range of powerful databases Successfully fetch and parse structured and unstructured data Transform and restructure your data with efficient R packages Define and build complex statistical models with glm Develop and train machine learning algorithms Visualize social networks and graph data Deploy supervised and unsupervised classification algorithms Discover how to visualize spatial data with R In Detail R is an essential language for sharp and successful data analysis. Its numerous features and ease of use make it a powerful way of mining, managing, and interpreting large sets of data. In a world where understanding big data has become key, by mastering R you will be able to deal with your data effectively and efficiently. This book will give you the guidance you need to build and develop your knowledge and expertise. Bridging the gap between theory and practice, this book will help you to understand and use data for a competitive advantage. Beginning with taking you through essential data mining and management tasks such as munging, fetching, cleaning, and restructuring, the book then explores different model designs and the core components of effective analysis. You will then discover how to optimize your use of machine learning algorithms for classification and recommendation systems beside the traditional and more recent statistical methods. Style and approach Covering the essential tasks and skills within data science, Mastering Data Analysis provides you with solutions to the challenges of data science. Each section gives you a theoretical overview before demonstrating how to put the theory to work with real-world use cases and hands-on examples.

The Practical, Authoritative, 360-Degree Technical Guide to Oracle Exadata: From Setup to Administration, Optimization, Tuning, and Troubleshooting The blazingly fast Oracle Exadata Database Machine is being embraced by thousands of large-scale users worldwide: by governments, the military, enterprise organizations, cloud service providers, and anyone who needs extreme performance. Now, Oracle Exadata Expert's Handbook provides authoritative guidance to running Oracle Exadata with maximum reliability, effectiveness, performance, and efficiency. Six renowned Oracle technology experts have brought together core technical information, experience, best practices, and insider tips in a concise reference. Covering both 11g and 12c versions of Oracle Exadata software, they deliver hands-on coverage of best practices, setup, migration, monitoring, administration, performance tuning, and troubleshooting. Whether you're an Oracle Exadata DBA, DMA, architect, or manager, you need these insights. Get a 360-degree overview of the Oracle Exadata Database Machine Efficiently deploy RAC within the Oracle Exadata ecosystem Fully leverage Storage Cell's extraordinary performance, via Offloading, Smart Scans, and Hybrid Columnar Compression Manage Exadata with OEM 12c: perform setup, configuration, asset/target discovery, and day-to-day administration Tune Oracle Exadata for even better performance Perform Exadata Backup/Recovery/DR with RMAN and Data Guard Migrate to Oracle Exadata from other platforms Use Oracle Exadata with the ZFS Storage Appliance Consolidate within the Exadata Database Cloud Expert Indexing in Oracle Database 11g 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

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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 Indexing in Oracle Database 11g helps by bringing together information indexing and how to use it into one, convenient and blissfully short volume that you can read quickly and have at your fingertips for reference. Learn the different types of indices available and when each is best applied. Recognize when queries aren't using indices as you intend. Manage your indexing for maximum performance. Let Expert Indexing in Oracle Database 11g be your guide to deep mastery of the most fundamental performance optimization structure in Oracle Database. Explains how indices work, how they help, and how they hinder Demystifies the various index choices Describes the database administration chores associated with indices

This practical book for PHP/Oracle developers is built around well explained, easy-to-follow example code to build robust, efficient, secure solutions covering popular current topics on using PHP with Oracle. Assuming no special skill level, experienced author Yuli Vasiliev shows how to install and configure PHP and Oracle; connect PHP to Oracle; move application business logic to Oracle; build transactional applications; use security features; improve performance with caching; employ XML features; implement SOAP web services; build Ajax-driven PHP/Oracle solutions. Building and deploying PHP applications on Oracle Database combines the power and robustness of Oracle with the easy, rapid development of open-source PHP to achieve high-performance, scalable, reliable data-driven web applications with minimal effort. Unlike some other databases, Oracle allows building the key business logic of PHP applications inside the database, moving data processing from web server to database server.

Oracle Database gets high marks for performance, reliability, and scalability. Building and deploying your PHP applications on Oracle Database enables you to combine the power and robustness of Oracle and the ease of use, short development time, and high performance of PHP. When used in a complementary way, PHP and Oracle allow you to build high-performance, scalable, and reliable data-driven Web applications with a minimum of effort.

* Describes the IBM WebSphere versions 4.0 and 5.0 architecture from a nuts and bolts level, giving visibility to the technology and underlying WebSphere platform design * Describes how to proactively manage the performance of an IBM WebSphere v4 or v5 platform * Thorough descriptions of tuning WebSphere with performance and robustness in mind * Teaches the reader how to develop custom IBM WebSphere performance monitoring and management tools

This is the only book on the market to focus on addressing issues of building highly scalable database applications with .NET technologies. Comprehensive coverage includes building .NET applications for all the major RDBMSs: SQL Server, Oracle, DB2, and MySQL.

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