

Read Free Oracle Core Essential Internals For Dbas And Developers Essential Internals For Dbas And Developers Experts Voice In Databases Pdf File Free

Oracle Core: Essential Internals for DBAs and Developers Oracle Internals Database Internals Oracle Internals Professional SQL Server 2008 Internals and Troubleshooting Understanding MySQL Internals Exploring Oracle Internals Microsoft SQL Server 2008 Management and Administration Database Administration Pro SQL Server Internals Oracle Database Administration for Microsoft SQL Server DBAs Expert SQL Server Transactions and Locking Perl for Oracle DBAs Mike Ault's Oracle Internals Monitoring and Tuning Scripts Oracle Internals: An Introduction Microsoft SQL Server 2008 Internals Forecasting Oracle Performance SQL Server 2019 Administration Inside Out Oracle Performance Troubleshooting Cost-Based Oracle Fundamentals PeopleSoft for the Oracle DBA Database Reliability Engineering Securing SQL Server SQL Server 2017 Administration Inside Out Efficient MySQL Performance Oracle DBA Mentor Professional Azure SQL Database Administration Learning MySQL Inside Microsoft SQL Server 6.5 Oracle Performance Firefighting Principles of Database Management SQL Server Internals: In-Memory Oltp Practical PostgreSQL SQL Server Hardware Inside the SQL Server Query Optimizer Database Systems Oracle Security Theory and Practice of Relational Databases Oracle Database Problem Solving and Troubleshooting Handbook Security, Audit and Control Features

A hands-on resource for SQL Server 2008 troubleshooting methods and tools SQL Server administrators need to ensure that SQL Server remains running 24/7. Authored by leading SQL Server experts and MVPs, this book provides in-depth coverage of best practices based on a deep understanding of the internals of both SQL Server and the Windows operating system. You'll get a thorough look at the SQL Server database architecture and internals as well as Windows OS internals so that you can approach troubleshooting with a solid grasp of the total processing environment. Armed with this comprehensive understanding, readers will then learn how to use a suite of tools for troubleshooting performance problems whether they originate on the database server or operating system side. Topics Covered: SQL Server Architecture Understanding Memory SQL Server Waits and Extended Events Working with Storage CPU and Query Processing Locking and Latches Knowing Tempdb Defining Your Approach To Troubleshooting Viewing Server Performance with PerfMon and the PAL Tool Tracing SQL Server with SQL Trace and Profiler Consolidating Data Collection with SQLDiag and the PerfStats Script Introducing RML Utilities for Stress Testing and Trace File Analysis Bringing It All Together with SQL Nexus Using Management Studio Reports and the Performance Dashboard Using SQL Server Management Data Warehouse Shortcuts to Efficient Data Collection and Quick Analysis Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file. A guide to Oracle DBA management scripts, this book is indispensable for all Oracle professionals who must quickly automate and manage their Oracle databases with scripts. An online code depot full of more than 200 pretested Oracle DBA scripts is provided. Coverage of all areas of Oracle database administration including data files, tablespace, and table and index management scripts is included. Also reviewed are mechanisms for automating Oracle database administration tasks and tips for automating without buying expensive tools. Master SQL Server's Concurrency Model so you can implement high-throughput systems that deliver transactional consistency to your application customers. This book explains how to troubleshoot and address blocking problems and deadlocks, and write code and design database schemas to minimize concurrency issues in the systems you develop. SQL Server's Concurrency Model is one of the least

understood parts of the SQL Server Database Engine. Almost every SQL Server system experiences hard-to-explain concurrency and blocking issues, and it can be extremely confusing to solve those issues without a base of knowledge in the internals of the Engine. While confusing from the outside, the SQL Server Concurrency Model is based on several well-defined principles that are covered in this book. Understanding the internals surrounding SQL Server's Concurrency Model helps you build high-throughput systems in multi-user environments. This book guides you through the Concurrency Model and elaborates how SQL Server supports transactional consistency in the databases. The book covers all versions of SQL Server, including Microsoft Azure SQL Database, and it includes coverage of new technologies such as In-Memory OLTP and Columnstore Indexes. What You'll Learn

- Know how transaction isolation levels affect locking behavior and concurrency
- Troubleshoot and address blocking issues and deadlocks
- Provide required data consistency while minimizing concurrency issues
- Design efficient transaction strategies that lead to scalable code
- Reduce concurrency problems through good schema design
- Understand concurrency models for In-Memory OLTP and Columnstore Indexes
- Reduce blocking during index maintenance, batch data load, and similar tasks

Who This Book Is For SQL Server developers, database administrators, and application architects who are developing highly-concurrent applications. The book is for anyone interested in the technical aspects of creating and troubleshooting high-throughput systems that respond swiftly to user requests.

Presents instructions on using MySQL, covering such topics as installation, querying, user management, security, and backups and recovery. Delve inside the core SQL Server engine—and put that knowledge to work—with guidance from a team of well-known internals experts. Whether database developer, architect, or administrator, you'll gain the deep knowledge you need to exploit key architectural changes—and capture the product's full potential. Discover how SQL Server works behind the scenes, including:

- What happens internally when SQL Server builds, expands, shrinks, and moves databases
- How to use event tracking—from triggers to the Extended Events Engine
- Why the right indexes can drastically reduce your query execution time
- How to transcend normal row-size limits with new storage capabilities
- How the Query Optimizer operates
- Multiple techniques for troubleshooting problematic query plans
- When to force SQL Server to reuse a cached query plan—or create a new one
- What SQL Server checks internally when running DBCC
- How to choose among five isolation levels and two concurrency models when working with multiple concurrent users

Arguably the most capable of all the open source databases, PostgreSQL is an object-relational database management system first developed in 1977 by the University of California at Berkeley. In spite of its long history, this robust database suffers from a lack of easy-to-use documentation. Practical PostgreSQL fills that void with a fast-paced guide to installation, configuration, and usage. This comprehensive new volume shows you how to compile PostgreSQL from source, create a database, and configure PostgreSQL to accept client-server connections. It also covers the many advanced features, such as transactions, versioning, replication, and referential integrity that enable developers and DBAs to use PostgreSQL for serious business applications. The thorough introduction to PostgreSQL's PL/pgSQL programming language explains how you can use this very useful but under-documented feature to develop stored procedures and triggers. The book includes a complete command reference, and database administrators will appreciate the chapters on user management, database maintenance, and backup & recovery. With Practical PostgreSQL, you will discover quickly why this open source database is such a great open source alternative to proprietary products from Oracle, IBM, and Microsoft. With CDROM

Ron Soukup, former general manager for the SQL Server product and current SQL team guru, has penned this comprehensive guide for those who develop this important database tool. The book covers all frequently asked questions about SQL Server. The CD includes all SQL Server documents—the ideal tool for handy reference or for PeopleSoft for the Oracle DBA, Second Edition stands on the boundary between the PeopleSoft application

and the Oracle database. This new edition of David Kurtz's book is freshly revised, showing how to tame the beast and manage Oracle successfully in a PeopleSoft environment. You'll learn about PeopleSoft's Internet architecture and its use of Oracle's Tuxedo Application Server. You'll find full coverage of key database issues such as indexing, connectivity, and tablespace usage as they apply to PeopleSoft. Kurtz also provides some of the best advice and information to be found anywhere on managing and troubleshooting performance issues in a PeopleSoft environment. The solid coverage of performance troubleshooting is enough by itself to make PeopleSoft for the Oracle DBA a must-have book for any Oracle Database administrator working in support of a PeopleSoft environment. Explains PeopleSoft's technical architecture as it relates to Oracle Database Demonstrates how to instrument and measure the performance of PeopleSoft Provides techniques to troubleshoot and resolve performance problems If you need to deploy, manage, or secure Microsoft SQL Server 2008, this is the complete, fast-paced, task-based reference you've been searching for. Authored by a world-class expert on SQL Server in the enterprise, this book goes far beyond the basics, taking on the complex tasks that DBAs need to make the most of Microsoft's flagship database platform. SQL Server MVP, Ross Mistry presents proven techniques for SQL Server 2008 installation, upgrades, backup/restore, data transfer, indexing, high availability, security, and much more. He draws on extensive testing in high-profile production environments to offer step-by-step solutions and powerful tips you won't find anywhere else. Every chapter begins with a section identifying SQL Server 2008's most significant new improvements, and concludes with a convenient summary of best practices. Each chapter also outlines the benefits of leveraging Windows Server 2008. Understand how to: Master DBA tips, tricks, and best practices proven in actual enterprise environments Install, upgrade or transition to SQL Server 2008. Harden and Secure an implementation. Encrypt SQL Server from an end-to-end perspective. Implement high availability-and leverage SQL Server 2008's major improvements to failover clustering and database mirroring Save time with SQL Server 2008's new policy-based management tools Performance tune and troubleshoot a SQL Server 2008 environment. Optimize application performance and manage workloads with the powerful new Resource Governor Implement Performance Studio, maintenance plans, Transparent Data Encryption and much more... Bonus Content: The book is based on Windows Server 2008 Step by step instructions of how to implement a failover cluster on Windows Server 2008 SQL Server PowerShell Administration Tasks Consolidate and virtualize SQL Server with Hyper-V Step by step instructions on how to install Hyper-V Proactively Monitor SQL Server with Operations Manager Install Windows Server 2008 certificates to encrypt SQL Server data Contributing Writers include: Hilary Cotter - SQL Server MVP John Welch - SQL Server MVP Marco Shaw - PowerShell MVP Maciej Pilecki - SQL Server MVP Shirmattie Seenarine - Technical Writer If you are a typical Oracle professional, you don't have the luxury of time to keep up with new technology and read all the new manuals to understand each new feature of the latest release from Oracle. You need a comprehensive source of information and in-depth tips and techniques for using the new technology. You need Oracle Internals: Tips, Tricks, and Techniques for DBAs. Oracle has evolved from a simple relational database into one of the most complex e-commerce platforms ever devised. It's not enough for you to understand just the Oracle database. You must also understand the components of the Web server technology, XML, Oracle Security, Oracle and Java, and a host of other issues in order to do your job properly. This book is a compendium of the best and most useful articles from Oracle Internals, Auerbach Publications' newsletter for Oracle database administrators and other Oracle professionals. Edited by Oracle guru Don Burleson, it provides the type of in-depth, highly technical information not found in any other book, information only available from peers and consultants. The chapters focus on the truly tough stuff - proven techniques learned in the trenches. You could get this information from other sources, but you'd have to hunt and peck

for it. Can you afford that kind of time? Oracle Internals: Tips, Tricks, and Techniques for DBAs gives you knowledge and advice directly applicable to your work in one easy-to-use resource. New Oracle database administrators can get off the ground running. This book helps you develop the ability to think on your feet and move focus in an instant from arcane syntax details to broad, corporate issues. Along the way, you will see how to create your first database and implement best practices to ensure a well-running database system. What makes Oracle DBA Mentor different is that it also teaches you how to obtain answers that are not found in this or other books. Focus is given to creating a test bed and running test cases to examine hypotheses and prove out solutions so you can be sure they work in production. Attention is given to navigating product documentation and networking in forums and social media to build your skills and a network to draw on when solving problems under pressure. There are chapters of step-by-step technical content as well as coverage of essential skills to succeed as a DBA no matter which database engine you administer. By the time you are done reading this book, you will have confidence to face many of the situations thrown in your direction. You will know where to go for the answers you don't yet know that you need. You'll be able to work and troubleshoot under pressure. You'll know how to create a database, institute backup and recovery procedures, secure the database and its valuable corporate data, and acquire more knowledge as needed so you can run a database to meet the needs of your organization.

What You'll Learn

- Install Oracle Database with best practices
- Implement backup and recovery procedures
- Understand the fundamentals of databases and data security
- Find answers to technical problems using Oracle documentation, Oracle Support, and other resources
- Patch and upgrade an Oracle database

Who This Book Is For

The novice database administrator who wants help getting off the ground with their DBA career, and in building the skills to let that career flourish in the long term. Mid-level DBAs will also find the book helpful as they try to grow their career to the next level. While the book is geared toward the Oracle platform, database administrators from other platforms can benefit from the soft skills covered in this book. Although MySQL's source code is open in the sense of being publicly available, it's essentially closed to you if you don't understand it. In this book, Sasha Pachev -- a former member of the MySQL Development Team -- provides a comprehensive tour of MySQL 5 that shows you how to figure out the inner workings of this powerful database. You'll go right to heart of the database to learn how data structures and convenience functions operate, how to add new storage engines and configuration options, and much more. The core of Understanding MySQL Internals begins with an Architecture Overview that provides a brief introduction of how the different components of MySQL work together. You then learn the steps for setting up a working compilable copy of the code that you can change and test at your pleasure. Other sections of the book cover:

- Core server classes, structures, and API
- The communication protocol between the client and the server
- Configuration variables, the controls of the server; includes a tutorial on how to add your own Thread-based request handling -- understanding threads and how they are used in MySQL
- An overview of MySQL storage engines
- The storage engine interface for integrating third-party storage engines
- The table lock manager
- The parser and optimizer for improving MySQL's performance
- Integrating a transactional storage engine into MySQL
- The internals of replication

Understanding MySQL Internals provides unprecedented opportunities for developers, DBAs, database application programmers, IT departments, software vendors, and computer science students to learn about the inner workings of this enterprise-proven database. With this book, you will soon reach a new level of comprehension regarding database development that will enable you to accomplish your goals. It's your guide to discovering and improving a great database. When it comes to choosing, using, and maintaining a database, understanding its internals is essential. But with so many distributed databases and tools available today, it's often difficult to understand what each one offers and

how they differ. With this practical guide, Alex Petrov guides developers through the concepts behind modern database and storage engine internals. Throughout the book, you'll explore relevant material gleaned from numerous books, papers, blog posts, and the source code of several open source databases. These resources are listed at the end of parts one and two. You'll discover that the most significant distinctions among many modern databases reside in subsystems that determine how storage is organized and how data is distributed. This book examines:

- Storage engines: Explore storage classification and taxonomy, and dive into B-Tree-based and immutable Log Structured storage engines, with differences and use-cases for each
- Storage building blocks: Learn how database files are organized to build efficient storage, using auxiliary data structures such as Page Cache, Buffer Pool and Write-Ahead Log Distributed systems: Learn step-by-step how nodes and processes connect and build complex communication patterns
- Database clusters: Which consistency models are commonly used by modern databases and how distributed storage systems achieve consistency

Conquer SQL Server 2017 administration—from the inside out Dive into SQL Server 2017 administration—and really put your SQL Server DBA expertise to work. This supremely organized reference packs hundreds of timesaving solutions, tips, and workarounds—all you need to plan, implement, manage, and secure SQL Server 2017 in any production environment: on-premises, cloud, or hybrid. Four SQL Server experts offer a complete tour of DBA capabilities available in SQL Server 2017 Database Engine, SQL Server Data Tools, SQL Server Management Studio, and via PowerShell. Discover how experts tackle today's essential tasks—and challenge yourself to new levels of mastery.

- Install, customize, and use SQL Server 2017's key administration and development tools
- Manage memory, storage, clustering, virtualization, and other components
- Architect and implement database infrastructure, including IaaS, Azure SQL, and hybrid cloud configurations
- Provision SQL Server and Azure SQL databases
- Secure SQL Server via encryption, row-level security, and data masking
- Safeguard Azure SQL databases using platform threat protection, firewalling, and auditing
- Establish SQL Server IaaS network security groups and user-defined routes
- Administer SQL Server user security and permissions
- Efficiently design tables using keys, data types, columns, partitioning, and views
- Utilize BLOBs and external, temporal, and memory-optimized tables
- Master powerful optimization techniques involving concurrency, indexing, parallelism, and execution plans
- Plan, deploy, and perform disaster recovery in traditional, cloud, and hybrid environments

For Experienced SQL Server Administrators and Other Database Professionals

- Your role: Intermediate-to-advanced level SQL Server database administrator, architect, developer, or performance tuning expert
- Prerequisites: Basic understanding of database administration procedures

The SQL Server Query Optimizer is perceived by many to be a magic black box, transforming SQL queries into high performance execution plans in the blink of an eye through some unknowable process. The truth is that, while the Query Optimizer is indeed the highly-complex result of decades of research, learning how it works its magic is not only possible, but immensely useful to DBAs and Developers alike. A better understanding of what the Query Optimizer does behind the scenes can help you to improve the performance of your databases and applications, and this book explains the core concepts behind how the SQL Server Query Optimizer works. With this knowledge, you'll be able to write superior queries, provide the Query Optimizer with all the information it needs to produce efficient execution plans, and troubleshoot the cases when the Query Optimizer is not giving you the best plan possible. With over 15 years of experience in the use of Relational Databases (including SQL Server since version 6.5), Benjamin has watched the SQL Server Query Optimizer grow and evolve. His insight will leave you with an excellent foundation in the practicalities of the Query Optimizer, and everything you need to know to start tuning your queries to perfection. Jonathan Lewis is one of the world's foremost authorities in this field (he is frequently quoted and reference by

other leading experts, such as Tom Kyte - see for example http://asktom.oracle.com/pls/ask/download_file?p_file=3067171813508366601 Book will be strongly co-promoted with Tom Kyte's Expert Oracle Database Architecture (1-59059-530-0) Highlights traps for those migrating from Oracle 8i to 9i to 10g, potentially averting often disastrous performance issues and downtime (=lost revenue) The first comprehensive book written to investigate, describe, and demonstrate the methods used by the Cost Based Optimizer Jonathan is one of very few Oracle authors to maintain online enhancements, errata and addenda pages, so the reader will be supported long after the book is published A reference for any Oracle database administrators who must ensure the consistency of data across distributed platforms, this book is for those administrators who recognize the benefits of distributing Oracle data. The intricacies of Oracle multi-master replication are described, and working code examples of complex multi-master replication are provided. Also included is information on Oracle replication tuning and monitoring. Discover how you can migrate a traditional on-premise SQL server database to a cloud-based solution with Microsoft Azure. Built with database administrators in mind, this book emulates different scenarios you might come across while working with large, complex SQL database migrations and provides solutions for effectively managing the migrated databases. Key Features Implement backup, restore, and recovery of Azure SQL databases Create shards and elastic pools to scale Azure SQL databases Automate common management tasks with PowerShell Implement over 40 practical activities and exercises across 24 topics to reinforce your learning Book Description As the cloud version of SQL Server, Azure SQL Database differs in key ways when it comes to management, maintenance, and administration. It's important to know how to administer SQL Database to fully benefit from all of the features and functionality that it provides. This book addresses important aspects of an Azure SQL Database instance such as migration, backup restorations, pricing policies, security, scalability, monitoring, performance optimization, high availability, and disaster recovery. It is a complete guide for database administrators, and ideal for those who are planning to migrate from on premise SQL Server database to an Azure SQL Server database. What you will learn Learn how to provision a new database or migrate an existing on-premise solution Understand how to backup, restore, secure, and scale your own Azure SQL Database Optimize the performance by monitoring and tuning your cloud-based SQL instance Implement high availability and disaster recovery procedures with SQL Database Develop a roadmap for your own scalable cloud solution with Azure SQL Database Who this book is for This book is ideal for database administrators, database developers, or application developers who are interested in developing or migrating existing applications with Azure SQL Database. Prior experience of working with an on-premise SQL Server deployment and brief knowledge of PowerShell and C# are recommended prerequisites. 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. Perl is a very powerful tool for Oracle database administrators, but too few DBAs realize how helpful Perl can be in managing, monitoring, and tuning Oracle databases. Whether you're responsible for Oracle9i, Oracle8i, or earlier databases, you'll find Perl an invaluable addition to your database administration arsenal. You don't need to be a Perl expert to use the excellent applications and scripts described in Perl for Oracle DBAs. The book explains what you need to know about Perl, provides a wealth of ready-to-use scripts developed especially for Oracle DBAs, and suggests many resources for further exploration. The book covers: The Perl language -- an introduction to Perl, its rich history and culture, and its extensive text processing and data transformation capabilities. The Perl/Oracle architecture -- Detailed information about Perl DBI, DBD::Oracle, the Oracle Call Interface (OCI), Oracle::OCI, extproc_perl, and mod_perl, the modules that allow Perl programs to communicate with Oracle databases. Perl applications for Oracle DBAs -- Profiles of the best Perl open source applications available for use and customization by Oracle DBAs: Perl/Tk, OraExplain, StatsView, Orac, DDL::Oracle, SchemaDiff, Senora, DBD::Chart, SchemaView-Plus, Oracletool, Karma, Embperl, and Mason. The Perl Database Administration (PDBA) Toolkit -- a comprehensive suite of specialized, ready-to-use scripts designed to help Oracle DBAs perform both routine and special-purpose administrative tasks: monitoring the Oracle alert log and databases, creating and managing Oracle user accounts, maintaining indexes and extents, extracting DDL and data, troubleshooting and tuning database problems, and much more. The book also explains how Oracle DBAs and developers can extend the toolkit and solve their own database administration problems using Perl. This book is aimed at helping Oracle database administrators (DBAs) to confidently and effectively operate in intense performance firefighting situations. To do so takes a unique combination of systematic method, perfect diagnosis, deep Oracle internals knowledge, the ability to communicate the complex in simple terms, and confidence in each of these areas. This book is squarely focused on developing in you, these characteristics and skills. Conquer SQL Server 2019 administration-from the inside out Dive into SQL Server 2019 administration-and really put your SQL Server DBA expertise to work. This supremely organized reference packs hundreds of timesaving solutions, tips, and workarounds-all you need to plan, implement, manage, and secure SQL Server 2019 in any production environment: on-premises, cloud, or hybrid. Six experts thoroughly tour DBA capabilities available in SQL Server 2019 Database Engine, SQL Server Data Tools, SQL Server Management Studio, PowerShell, and Azure Portal. You'll find extensive new coverage of Azure SQL, big data clusters, PolyBase, data protection, automation, and more. Discover how experts tackle today's essential tasks-and challenge yourself to new levels of mastery. Explore SQL Server 2019's toolset, including the improved SQL Server Management Studio, Azure Data Studio, and Configuration Manager Design, implement, manage, and govern on-premises, hybrid, or Azure database infrastructures Install and configure SQL Server on Windows and Linux Master modern maintenance and monitoring with extended events, Resource Governor, and the SQL Assessment API Automate tasks with maintenance plans, PowerShell, Policy-Based Management, and more Plan and manage data recovery, including hybrid backup/restore, Azure SQL Database recovery, and geo-replication Use availability groups for high availability and disaster recovery Protect data with Transparent Data Encryption, Always Encrypted, new Certificate Management capabilities, and other advances Optimize databases with SQL Server 2019's advanced performance and indexing features Provision and operate Azure SQL Database and its managed instances Move SQL Server workloads to Azure: planning, testing, migration, and post-migration Securing SQL Server: Protecting Your Database from Attackers provides readers with the necessary tools and

techniques to help maintain the security of databases within their environment. It begins with a discussion of network security issues, including public versus private IP addresses; accessing an SQL server from home; physical security; and testing network security. The remaining chapters cover database encryption; SQL password security; SQL injection attacks; database backup security; security auditing; and server rights. The Appendix features checklists that database administrators can use to pass external audits. Named a 2011 Systems Administration Book by InfoSec Reviews Author Denny Cherry is an MVP by Microsoft for his expertise in the SQL Server product Learn expert techniques to protect your SQL database environment Discover how to identify what an intruder accessed or damaged Improve your ability to develop, manage, and troubleshoot SQL Server solutions by learning how different components work "under the hood," and how they communicate with each other. The detailed knowledge helps in implementing and maintaining high-throughput databases critical to your business and its customers. You'll learn how to identify the root cause of each problem and understand how different design and implementation decisions affect performance of your systems. New in this second edition is coverage of SQL Server 2016 Internals, including In-Memory OLTP, columnstore enhancements, Operational Analytics support, Query Store, JSON, temporal tables, stretch databases, security features, and other improvements in the new SQL Server version. The knowledge also can be applied to Microsoft Azure SQL Databases that share the same code with SQL Server 2016. Pro SQL Server Internals is a book for developers and database administrators, and it covers multiple SQL Server versions starting with SQL Server 2005 and going all the way up to the recently released SQL Server 2016. The book provides a solid road map for understanding the depth and power of the SQL Server database server and teaches how to get the most from the platform and keep your databases running at the level needed to support your business. The book:

- Provides detailed knowledge of new SQL Server 2016 features and enhancements
- Includes revamped coverage of columnstore indexes and In-Memory OLTP
- Covers indexing and transaction strategies
- Shows how various database objects and technologies are implemented internally, and when they should or should not be used
- Demonstrates how SQL Server executes queries and works with data and transaction log

What You Will Learn Design and develop database solutions with SQL Server. Troubleshoot design, concurrency, and performance issues. Choose the right database objects and technologies for the job. Reduce costs and improve availability and manageability. Design disaster recovery and high-availability strategies. Improve performance of OLTP and data warehouse systems through in-memory OLTP and Columnstore indexes. Who This Book Is For Developers and database administrators who want to design, develop, and maintain systems in a way that gets the most from SQL Server. This book is an excellent choice for people who prefer to understand and fix the root cause of a problem rather than applying a 'band aid' to it. Database Systems: A Pragmatic Approach is a classroom textbook for use by students who are learning about relational databases, and the professors who teach them. It discusses the database as an essential component of a software system, as well as a valuable, mission critical corporate resource. The book is based on lecture notes that have been tested and proven over several years, with outstanding results. It also exemplifies mastery of the technique of combining and balancing theory with practice, to give students their best chance at success. Upholding his aim for brevity, comprehensive coverage, and relevance, author Elvis C. Foster's practical and methodical discussion style gets straight to the salient issues, and avoids unnecessary fluff as well as an overkill of theoretical calculations. The book discusses concepts, principles, design, implementation, and management issues of databases. Each chapter is organized systematically into brief, reader-friendly sections, with itemization of the important points to be remembered. It adopts a methodical and pragmatic approach to solving database systems problems. Diagrams and illustrations also sum up the salient points to enhance learning. Additionally, the

book includes a number of Foster's original methodologies that add clarity and creativity to the database modeling and design experience while making a novel contribution to the discipline. Everything combines to make Database Systems: A Pragmatic Approach an excellent textbook for students, and an excellent resource on theory for the practitioner. If you are a typical Oracle professional, you don't have the luxury of time to keep up with new technology and read all the new manuals to understand each new feature of the latest release from Oracle. You need a comprehensive source of information and in-depth tips and techniques for using the new technology. You need Oracle Internals: Tips, Tricks, and Techniques for DBAs. Oracle has evolved from a simple relational database into one of the most complex e-commerce platforms ever devised. It's not enough for you to understand just the Oracle database. You must also understand the components of the Web server technology, XML, Oracle Security, Oracle and Java, and a host of other issues in order to do your job properly. This book is a compendium of the best and most useful articles from Oracle Internals, Auerbach Publications' newsletter for Oracle database administrators and other Oracle professionals. Edited by Oracle guru Don Burleson, it provides the type of in-depth, highly technical information not found in any other book, information only available from peers and consultants. The chapters focus on the truly tough stuff - proven techniques learned in the trenches. You could get this information from other sources, but you'd have to hunt and peck for it. Can you afford that kind of time? Oracle Internals: Tips, Tricks, and Techniques for DBAs gives you knowledge and advice directly applicable to your work in one easy-to-use resource. Introductory, theory-practice balanced text teaching the fundamentals of databases to advanced undergraduates or graduate students in information systems or computer science. SQL Server Hardware will provide the fundamental knowledge and resources you need to make intelligent decisions about choice, and optimal installation and configuration, of SQL Server hardware, operating system and the SQL Server RDBMS. This text explains hot issues for resolving the most difficult performance and recovery issues for Oracle 11g databases. It will allow the experienced Oracle professional to become an expert on how the Oracle database engine really works and provide the Oracle beginner with the solid core knowledge of the theory and practice behind the Oracle database. Most experienced Oracle DBAs are familiar with the standard utilities found within the Oracle database server environment such as RMAN, export and import and Grid Control. However, when it comes down to how the actual database engine works under the hood, the internal workings of Oracle are poorly documented or hidden from plain view of the working DBA. Are you a senior level Oracle professional who wants to learn the secret workings of the Oracle 11g database engine to be able to solve tricky database issues? This timely and expert guide will cover many of the little known and undocumented features within the newest release of Oracle database for Oracle 11g. It will be a perfect capstone to mastering the keys to the kingdom of the Oracle 11g engine. Move from the average Oracle DBA to become an expert level DBA with the help of this exciting new guide from an Oracle guru! Topics will include a detailed discussion of the latest Oracle 11g database internals which previously have been undocumented and internal to only the Oracle server development team. In addition, tools and utilities that have been previously neglected such as how to use internal tools for database issues such as oradebug and tkprof will be explored for tuning difficult issues with the Oracle 11g database. This book distills the very complex nature of Oracle 11g database internals using undocumented tools and features that have not been covered so that database professionals can gain mastery over solving the most difficult and challenging issues for Oracle 11g. This concise book contains detailed information about Oracle internals-information that's not readily available to Oracle customers. Based on Oracle8i release 8.1, the book describes many of the secrets of Oracle's internal services: data structures, algorithms, and undocumented Oracle system statistics. Main topics include waits,

latches, locks (including instance locks, which are used in parallel server environments), and memory use and management. The author's toolkit of scripts accesses the Oracle X\$ tables directly to return statistics you'll find extremely helpful in tuning and analysis. Oracle8i Internal Services is aimed especially at administrators and developers who need detailed internal information to do advanced performance tuning. The book will expand your repertoire of tuning solutions and troubleshooting techniques by explaining how you can use Oracle's hidden parameters and undocumented system statistics to best advantage. "The Oracle wait events are probably the most important piece of tuning information for any Oracle DBA. In this book Steve Adams gives a good introduction to the most important wait events and also offers information on how to tune them." Anjo Kolk, Oracle Corporation "Steve Adams knows more about Oracle internals than anyone I know. This book is a very significant contribution to the body of Oracle knowledge and an invaluable aid to advanced performance tuning and configuration. I highly recommend it." Guy Harrison, Project Manager, Database Monitoring Tools, Quest Software "Steve has taken Oracle internals information to the next level. The book is a 'must read' for every DBA and senior technical person who's working on mission-critical Oracle databases. It is a welcome addition to my bookshelf." Mark Gurry, Author of Oracle Performance Tuning You'll find several books on basic or advanced MySQL performance, but nothing in between. That's because explaining MySQL performance without addressing its complexity is difficult. This practical book bridges the gap by teaching software engineers mid-level MySQL knowledge beyond the fundamentals, but well shy of deep-level internals required by database administrators (DBAs). Daniel Nichter shows you how to apply the best practices and techniques that directly affect MySQL performance. You'll learn how to improve performance by analyzing query execution, indexing for common SQL clauses and table joins, optimizing data access, and understanding the most important MySQL metrics. You'll also discover how replication, transactions, row locking, and the cloud influence MySQL performance. Understand why query response time is the North Star of MySQL performance Learn query metrics in detail, including aggregation, reporting, and analysis See how to index effectively for common SQL clauses and table joins Explore the most important server metrics and what they reveal about performance Dive into transactions and row locking to gain deep, actionable insight Achieve remarkable MySQL performance at any scale Security in a relational database management system is complex, and too few DBAs, system administrators, managers, and developers understand how Oracle implements system and database security. This book gives you the guidance you need to protect your databases. Oracle security has many facets: Establishing an organization's security policy and plan Protecting system files and passwords Controlling access to database objects (tables, views, rows, columns, etc.) Building appropriate user profiles, roles, and privileges Monitoring system access via audit trails Oracle Security describes how these basic database security features are implemented and provides many practical strategies for securing Oracle systems and databases. It explains how to use the Oracle Enterprise Manager and Oracle Security Server to enhance your site's security, and it touches on such advanced security features as encryption, Trusted Oracle, and various Internet and World Wide Web protection strategies. A table of contents follows: Preface Part I: Security in an Oracle System Oracle and Security Oracle System Files Oracle Database Objects The Oracle Data Dictionary Default Roles and User Accounts Profiles, Passwords, and Synonyms Part II: Implementing Security Developing a Database Security Plan Installing and Starting Oracle Developing a Simple Security Application Developing an Audit Plan Developing a Sample Audit Application Backing Up and Recovering a Database Using the Oracle Enterprise Manager Maintaining User Accounts Part III: Enhanced Oracle Security Using the Oracle Security Server Using the Internet and the Web Using Extra-Cost Options Appendix A. References Giving comprehensive, soup-to-nuts coverage of database administration, this guide is written from a platform-

independent viewpoint, emphasizing best practices. The infrastructure-as-code revolution in IT is also affecting database administration. With this practical book, developers, system administrators, and junior to mid-level DBAs will learn how the modern practice of site reliability engineering applies to the craft of database architecture and operations. Authors Laine Campbell and Charity Majors provide a framework for professionals looking to join the ranks of today's database reliability engineers (DBRE). You'll begin by exploring core operational concepts that DBREs need to master. Then you'll examine a wide range of database persistence options, including how to implement key technologies to provide resilient, scalable, and performant data storage and retrieval. With a firm foundation in database reliability engineering, you'll be ready to dive into the architecture and operations of any modern database. This book covers: Service-level requirements and risk management Building and evolving an architecture for operational visibility Infrastructure engineering and infrastructure management How to facilitate the release management process Data storage, indexing, and replication Identifying datastore characteristics and best use cases Datastore architectural components and data-driven architectures Apply Your SQL Server DBA Skills to Oracle Database Administration Use your SQL Server experience to set up and maintain a high-performance Oracle Database environment. Written by a DBA with expertise in both platforms, Oracle Database Administration for Microsoft SQL Server DBAs illustrates each technique with clear explanations, examples, and comparison tables. Get full details on Oracle Database intervals, creation assistants, management techniques, and query tools. High availability, disaster recovery, and security procedures are also extensively covered in this comprehensive Oracle Press guide. Install and configure Oracle Database on Windows or Linux systems Administer and monitor databases from Oracle Enterprise Manager Implement robust security using roles, permissions, and privileges Back up and restore databases with Oracle Recovery Manager Use the Oracle cost-based optimizer to tune performance Write, debug, and execute PL/SQL queries using Oracle SQL Developer Maximize availability with Oracle Real Application Clusters Build standby and failover servers using Oracle Data Guard 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 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. The study of relationship databases is a core component of virtually every undergraduate computer science degree course. This new edition of Theory and Practice of Relationship Databases retains all the features that made the previous edition such as success, and goes on to give even more comprehensive and informative coverage. Written in a tutorial style and containing a great many examples and exercises as well as extensively using illustrative and explanatory graphics, the author has produced an undergraduate textbook of great depth and clarity that is very easy to follow. The subject of relational databases is brought to life by the writing style and the inclusion of an homogenous case study that reinforces the issues dealt with in each chapter. The primary objective of the book is to present a comprehensive explanation of the process of development of database application systems within the framework of a set processing paradigm. Since the majority of these applications are built as relationship systems, a complete though reasonably concise account of that model is presented. Dr. Stanczyk has achieved this by concentrating on the issues that contribute significantly to the application development while de-emphasizing purely theoretical aspects of the subject. This has led to an imaginative and highly practical textbook that will be an excellent read for the undergraduate computer

science student. The SQL Server 2014 In-Memory OLTP engine (a.k.a. Hekaton) is designed from the ground up to exploit terabytes of available memory and high numbers of processing cores. It allows us to work with memory-optimized tables and indexes, and natively compiled stored procedures, in addition to the disk-based tables and indexes, and T-SQL stored procedures, that SQL Server has always provided. Hekaton in-memory data is accessible, transparently, using familiar interfaces such as T-SQL and SSMS, but Hekaton's internal behavior and capabilities are very different than those of the standard relational engine. Everything you knew about how your SQL Server stores and accesses data is different in Hekaton. Everything you understood about how multiple concurrent processes are handled needs to be reconsidered. In this book, Kalen Delaney explains how the new In-Memory OLTP engine works, how it stores and manipulates data, and how, even with all data stored in memory and no locking or latching, it can still guarantee the ACID properties of all transactions. Kalen has been working with SQL Server since 1987, specializing in query performance tuning and SQL Server internals. The Hekaton internals knowledge she provides in this book will help you migrate existing tables or databases to Hekaton, and get faster performance from your SQL Server applications than you ever thought possible. 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

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