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VRGMWK - JORDAN DEON

Use this comprehensive guide for the SQL Server DBA, covering the gamut of what any practicing database administrator needs to know to get their daily work done. Updated for SQL Server 2019, this edition includes coverage of new features such as Static Data Masking, and the Hybrid Buffer Pool. Other new content includes coverage of Query Store, installation on Linux, and resumable DDL operations. Pro SQL Server 2019 Administration takes DBAs on a journey that begins with planning their SQL Server deployment and runs through installing and configuring the instance, administering and optimizing database objects, and ensuring that data is secure and highly available. Finally, readers will learn how to perform advanced maintenance and tuning techniques. This book teaches you to make the most of new SQL Server 2019 functionality, including resumable online index creation and the Always Encrypted feature with secure enclaves. The book promotes best-practice installation, shows how to configure for scalability and high workloads, and demonstrates the gamut of database-level maintenance tasks such as index maintenance, database consistency checks, and table optimizations. What You'll Learn Install SQL Server on Windows and Linux through the GUI and with PowerShell Optimize tables through in-memory OLTP, table partitioning, and the creation of indexes Improve performance through advanced features such as specialized indexes Secure and encrypt data to protect against embarrassing data breaches Ensure 24x7x365 access through high-availability and disaster recovery features Back up your data to ensure against loss, and recover data when needed Perform routine maintenance tasks such as database consistency checks Troubleshoot and solve performance problems in SQL queries and in the database engine Who This Book Is For SQL Server DBAs who manage on-premise installations of SQL Server. This book is also useful for DBAs who wish to learn advanced features such as Query Store, Extended Events, Distributed Replay, and Policy-Based Management, or those who need to install SQL Server in a variety of environments.

This book is your field guide to planning, deploying, managing, and troubleshooting Always On Availability Groups. The Always On Availability Groups feature is an enterprise-level solution for high availability and disaster recovery. Always On provides a rich set of options that reduce overhead and resource usage and enable database administrators to implement and manage high availability and disaster recovery solutions far more easily than by implementing the log-shipping and database-mirroring solutions of the past. Pro SQL Server Always On Availability Groups shows how to reduce downtime, maximize application availability, and provide data protection. The goal is always to have your SQL Server databases up and running whenever you need them, rain or shine, disaster or otherwise. With a focus on real-world experiences and war stories, authors Uttam Parui and Vivek Sanil offer you: Tips, tricks, and best practices for architecting and deploying availability groups. The confidence required to manage and monitor availability groups. Techniques to troubleshoot common issues that you may face during and after deploying availability groups in a mission-critical production environment. What You Will Learn Grasp important concepts underlying high-availability and disaster recovery. Plan and deploy Always On Availability Groups in your corporate environment. Manage Availability Groups to ensure constant readiness and high throughput. Monitor Availability Group performance and troubleshoot problems fast. Build on the cloud and make Windows Azure part of your availability solution. Employ proven techniques and best practices as tested and shared by the authors. Audience Pro SQL Server Always On Availability Groups is aimed at SQL Server architects, database administrators, and IT professionals who are tasked with architecting and deploying a high-availability and disaster recovery solution involving Microsoft SQL Server. This book is also for SQL Server support staff who will be managing and supporting existing availability group deployments.

Here is a practical guide for analyzing and troubleshooting SQL Server performance using wait statistics. Learn to identify precisely why your queries are running slowly. Measure the amount of time consumed by each bottleneck so that you can focus attention on making the largest improvements first. This edition is updated to cover analysis of wait statistics inside Query Store, the CXCONSUMER wait event, and to be current with SQL Server 2019. Whether you are new to wait statistics, or already familiar with them, this book provides a deeper understanding on how wait statistics are generated and what they can mean for your SQL Server instance's performance. Pro SQL Server 2019 Wait Statistics goes beyond the most common wait types into the more complex and performance-threatening wait types. You'll learn about per-query wait statistics and session-based wait statistics, and the types of problems they each can help you solve. The different wait types are categorized by their area of impact, including CPU, IO, Lock, and many more. The book presents clear examples to help you gain practical knowledge of why and how specific wait times increase or decrease, and how they impact your SQL Server's performance. After reading this book you won't want to be without the valuable information that wait statistics provide regarding where you should be spending your limited tuning time to maximize performance and value to your business. What You'll Learn Identify resource bottlenecks in a running SQL Server instance Locate wait statistics information inside DMVs and Query Store Analyze the root cause of sub-optimal performance Diagnose I/O contention and locking contention Benchmark SQL Server performance Lower the wait time of the most popular wait types Who This Book Is For Database administrators who want to identify and resolve performance bottlenecks, those who want to learn more about how the SQL Server engine accesses and uses resources inside SQL Server, and administrators concerned with achieving—and knowing they have achieved—optimal performance

Pro SQL Server Wait Statistics is a practical guide for analyzing and troubleshooting SQL Server performance using wait statistics. Whether you are new to wait statistics, or already familiar with them, this book will help you gain a deeper understanding on how wait statistics are generated and what they can mean for your SQL Server's performance. Besides the most common wait types, Pro SQL Server Wait Statistics goes further into the more complex and performance threatening wait types. The different wait types are categorized by their area of impact, and include CPU, IO, Lock, and many more different wait type categories. Filled with clear examples, Pro SQL Server Wait Statistics helps you gain practical knowledge of why and how specific wait times increase or decrease, and how they impact your SQL Server's performance.

Pro SQL Server Reporting Services 2008 is the third edition of Apress' top book on Microsoft's enterprise-level reporting tool. The previous edition has sold some 2100 units over a two-year period. This revision, combined with the impending release of SQL Server 2008, breathes new life into the topic and into this book.

This book comprehensively covers the technology, the people, the process, and the real-world best practices for planning, deploying, administering, and maintaining highly available SQL Server 2005

instances. It provides in-depth, detailed advice on what it takes to assure SQL Server high availability for businesses of any size. It covers both availability and performance, from the perspective of high availability, and addresses the crucial needs of enterprise-class, 24x7 SQL Server 2005 implementations. The book is based on real-world experience. It gives sound guidance to DBAs and system administrators on how to really get the job done.

Service Broker is a key Microsoft product in support of message-based processing between applications. Pro SQL Server 2008 Service Broker helps you to take full advantage of this key Microsoft technology, beginning from the fundamentals, moving through installation and application development, and ultimately showing you how to develop highly available and scalable applications based upon the service-oriented architecture that is quickly gaining ground as the way forward in application development. Comprehensive approach to developing with Service Broker Strong focus on best practices and real-world scenarios Covers the key aspects of distributed application design

SQL Server 2005 offers the capability to write code in a .NET language that can be compiled and run inside SQL Server. CLR Integration, or SQL CLR, lets you create stored procedures, user-defined types, triggers, table valued functions, and aggregates using a .NET managed language. You can read and write to resources outside of SQL Server and enjoy a tighter integration with XML, web services, and simple file and logging capabilities. Here's the reference you'll want on your desk as you develop SQL CLR solutions. It helps you decide whether to use SQL CLR, how to lock down security, and learn from real examples. If you want to develop stored procedures or other objects in .NET for SQL Server 2005, this book offers exactly what you need. What you will learn from this book The concepts and architecture of SQL CLR Uses of .NET namespaces in SQL Server programming tasks How to develop and benchmark routines in T-SQL and .NET to determine when CLR-based solutions are advantageous How to replace extended stored procedures using SQL CLR stored procedures How to use SQL CLR objects in external applications How to restrict and secure SQL CLR object capabilities Processes and procedures for deploying SQL CLR objects Who this book is for This book is for developers and architects who are familiar with .NET concepts as well as DBAs who, although developers in their own right, may be slightly less up to date on .NET. A solid grounding in T-SQL is necessary. Wrox Professional guides are planned and written by working programmers to meet the real-world needs of programmers, developers, and IT professionals. Focused and relevant, they address the issues technology professionals face every day. They provide examples, practical solutions, and expert education in new technologies, all designed to help programmers do a better job.

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.

It is a common requirement to make data that lives on one server available on another. Cross-server queries may be quicker by providing a local copy of the data; data may be made available to resource intensive reporting queries without affecting the OLTP load, maybe even with an intentional delay in synchronization, so that reports run against complete days only; or a complete database may be replicated to a secondary 'standby' server for high availability. In each case, SQL Server Replication is an option. This book provides the hands-on introduction needed to get started and explores all of the technology's most important strengths and weaknesses. It will help the reader decide whether replication meets requirements and which type of replication will be appropriate. It also offers guidance on when to avoid replication in favor of features such as simple log shipping, or the "Always On" feature set. This practical guide illustrates all major concepts with exercises. --

Learn effective and scalable database design techniques in a SQL Server 2016 and higher environment. This book is revised to cover in-memory online transaction processing, temporal data storage, row-level security, durability enhancements, and other design-related features that are new or changed in SQL Server 2016. Designing an effective and scalable database using SQL Server is a task requiring skills that have been around for forty years coupled with technology that is constantly changing. Pro SQL Server Relational Database Design and Implementation covers everything from design logic that business users will understand, all the way to the physical implementation of design in a SQL Server database. Grounded in best practices and a solid understanding of the underlying theory, Louis Davidson shows how to "get it right" in SQL Server database design and lay a solid groundwork for the future use of valuable business data. The pace of change in relational database management systems has been tremendous these past few years. Whereas in the past it was enough to think about optimizing data residing on spinning hard drives, today one also must consider solid-state storage as well as data that are constantly held in memory and never written to disk at all except as a backup. Furthermore, there is a trend toward hybrid cloud and on-premise database configurations as well a move toward preconfigured appliances. Pro SQL Server Relational Database Design and Implementation guides in the understanding of these massive changes and in their application toward sound database design. Gives a solid foundation in best practices and relational theory Covers the latest implementation features in SQL Server 2016 Helps you master in-memory OLTP and use it effectively Takes you from conceptual design to an effective, physical implementation What You Will Learn Develop conceptual models of client data using interviews and client documentation Recognize and apply common database design patterns Normalize data models to enhance scalability and the long term use of valuable data Translate conceptual models into high-performing SQL Server databases Secure and protect data integrity as part of meeting regulatory requirements Create effective indexing to speed query performance Who This Book Is For Programmers and database administrators of all types who want to use SQL Server to store data. The book is especial-

ly useful to those wanting to learn the very latest design features in SQL Server 2016, features that include an improved approach to in-memory OLTP, durability enhancements, temporal data support, and more. Chapters on fundamental concepts, the language of database modeling, SQL implementation, and of course, the normalization process, lay a solid groundwork for readers who are just entering the field of database design. More advanced chapters serve the seasoned veteran by tackling the very latest in physical implementation features that SQL Server has to offer. The book has been carefully revised to cover all the design-related features that are new in SQL Server 2016.

Pro SQL Server 2012 Practices is an anthology of high-end wisdom from a group of accomplished database administrators who are quietly but relentlessly pushing the performance and feature envelope of Microsoft SQL Server 2012. With an emphasis upon performance—but also branching into release management, auditing, and other issues—the book helps you deliver the most value for your company's investment in Microsoft's flagship database system. Goes beyond the manual to cover good techniques and best practices Delivers knowledge usually gained only by hard experience Focuses upon performance, scalability, reliability Helps achieve the predictability needed to be in control at all times

Learn effective and scalable database design techniques in a SQL Server environment. Pro SQL Server 2008 Relational Database Design and Implementation covers everything from design logic that business users will understand, all the way to the physical implementation of the design in a SQL Server database. Grounded in best practices and a solid understanding of the underlying theory, authors Louis Davidson, Kevin Kline, Scott Klein, and Kurt Windisch show how to 'get it right' in SQL Server database design and lay a solid groundwork for the future use of valuable business data. Solid foundation in best practices and relational theory Maximize SQL Server features to enhance security, performance, scalability Thorough treatment from conceptual design to an effective, physical implementation

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.

Pro SQL Server 2008 Mirroring is your complete guide to planning, using, deploying, and maintaining database mirroring as a high-availability option. Mirroring protects you by maintaining one or more duplicate copies of your database for use in the event the primary copy is damaged. It is a key component of any production-level, high-availability solution. This book covers the full spectrum of database mirroring, taking you from the planning phase through the implementation to the maintenance phase and beyond. Easy to follow, step-by-step instructions for beginner and intermediate users In-depth, detailed information for advanced and expert users Covers all phases of database mirroring from planning to sustained maintenance

This book describes, diagnoses, and solves the most common problems with SQL Server 2005, 2008, and 2008 R2. The authors explain a basic approach to troubleshooting and the essential tools. They explore areas in which problems arise with regularity: high disk I/O (RAID misconfiguration, inadequate I/O throughput, poor workload distribution, SAN issues, disk partition misalignment); high CPU usage (insufficient memory, poorly written queries, inadequate indexing, inappropriate configuration option settings); memory mismanagement; missing indexes; blocking (caused mainly by poorly designed databases that lack proper keys and indexing, and applications that apply needlessly restrictive transaction isolation levels); deadlocking (Bookmark Lookup, Serializable Range Scan, Cascading Constraint); full transaction logs (lack of log backups, hefty index maintenance operations, long running transaction, problems with replication and mirroring environments); and accidentally-lost data. Finally, the authors discuss diagnosing tools such as the Performance Monitor, Dynamic Management Views, and server-side tracing. --

Learn effective and scalable database design techniques in a SQL Server environment. Pro SQL Server 2012 Relational Database Design and Implementation covers everything from design logic that business users will understand, all the way to the physical implementation of design in a SQL Server database. Grounded in best practices and a solid understanding of the underlying theory, Louis Davidson shows how to "get it right" in SQL Server database design and lay a solid groundwork for the future use of valuable business data. Gives a solid foundation in best practices and relational theory Covers the latest implementation features in SQL Server Takes you from conceptual design to an effective, physical implementation

Leverage powerful features of the SQL Server and watch your infrastructure transform into a high-performing, reliable network of systems. Key Features Explore more than 20 real-world use cases to understand SQL Server features Get to grips with the SQL Server Always On technology Learn how to choose HA and DR topologies for your system Book Description Professional SQL Server High Availability and Disaster Recovery explains the high availability and disaster recovery technologies available in SQL Server: Replication, AlwaysOn, and Log Shipping. You'll learn what they are, how to monitor them, and how to troubleshoot any related problems. You will be introduced to the availability groups of AlwaysOn and learn how to configure them to extend your database mirroring. Through this book, you will be able to explore the technical implementations of high availability and disaster recovery technologies that you can use when you create a highly available infrastructure, including hybrid topologies. Note that this course does not cover SQL Server Failover Cluster Installation with shared storage. By the end of the book, you'll be equipped with all that you need to know to develop robust and high performance infrastructure. What you will learn Configure and troubleshoot Replica-

tion, AlwaysOn, and Log Shipping Study the best practices to implement HA and DR solutions Design HA and DR topologies for the SQL Server and study how to choose a topology for your environment Use T-SQL to configure replication, AlwaysOn, and log shipping Migrate from On-Premise SQL Server to Azure SQL Database Manage and maintain AlwaysOn availability groups for extended database mirroring Who this book is for Professional SQL Server High Availability and Disaster Recovery is for you if you are a database administrator or database developer who wants to improve the performance of your production environment. Prior experience of working with SQL Server will help you get the most out of this book.

Explore the impressive storage and analytic tools available with the in-cloud and on-premises versions of Microsoft SQL Server 2019. Key Features Gain insights into what's new in SQL Server 2019 Understand use cases and customer scenarios that can be implemented with SQL Server 2019 Discover new cross-platform tools that simplify management and analysis Book Description Microsoft SQL Server comes equipped with industry-leading features and the best online transaction processing capabilities. If you are looking to work with data processing and management, getting up to speed with Microsoft SQL Server 2019 is key. Introducing SQL Server 2019 takes you through the latest features in SQL Server 2019 and their importance. You will learn to unlock faster querying speeds and understand how to leverage the new and improved security features to build robust data management solutions. Further chapters will assist you with integrating, managing, and analyzing all data, including relational, NoSQL, and unstructured big data using SQL Server 2019. Dedicated sections in the book will also demonstrate how you can use SQL Server 2019 to leverage data processing platforms, such as Apache Hadoop and Spark, and containerization technologies like Docker and Kubernetes to control your data and efficiently monitor it. By the end of this book, you'll be well versed with all the features of Microsoft SQL Server 2019 and understand how to use them confidently to build robust data management solutions. What you will learn Build a custom container image with a Dockerfile Deploy and run the SQL Server 2019 container image Understand how to use SQL Server on Linux Migrate existing paginated reports to Power BI Report Server Learn to query Hadoop Distributed File System (HDFS) data using Azure Data Studio Understand the benefits of In-Memory OLTP Who this book is for This book is for database administrators, architects, big data engineers, or anyone who has experience with SQL Server and wants to explore and implement the new features in SQL Server 2019. Basic working knowledge of SQL Server and relational database management system (RDBMS) is required.

Professional SQL Server 2005 Programming shows experienced developers how to master the substantially revamped feature set of the latest release of Microsoft SQL Server. The book begins with a concise overview of the new features of SQL Server that is of interest to experienced developers. This is especially important given the substantial changes to SQL Server with this release. From there, the book quickly moves on to the 'meat' of the title. Beginning-level material has been removed to provide more room for covering new features and more extensive code examples.

This book explains why Microsoft introduced Service Broker and describes its big advantages over prior message technologies. Rich with practical examples, this volume offers complete, incisive coverage on this important new technology. Focused on best practices, the book explains in detail how Service Broker supports and enhances database and web applications. It covers Service Broker fundamentals as well as addresses current crucial topics like SOA and SODA. Written by an international expert on Service Broker, the book is an invaluable resource for all serious database and web developers.

Pro SQL Server 2012 Administration is a one-stop source for all the knowledge you'll need to professionally manage a database under Microsoft SQL Server 2012. SQL Server administration is a complex field requiring an unusually broad and well-rounded skill set. A good database administrator must be part system administrator, part database design expert, and part SQL tuning optimization guru. Above all, he or she must be capable of restoring a damaged database at any time. Database administration requires excellent people skills for dealing with management and clients, and solid technical skills for dealing with the hardware and the software. Pro SQL Server 2012 Administration addresses all aspects of database administration, regardless of the size of the implementation. Install SQL Server 2012 and create new database environments. Develop a sound backup strategy for your database. Perform recovery as needed, which many consider to be job #1. Authors Ken Simmons and Sylvester Carstarphen also help you automate your work through the use of policy-based management. Performance optimization gets good coverage, so that you can render assistance when developers need help with problem queries. Rare among database and other technical books is solid guidance on the people side of the equation. Success as a database administrator comes from working well with others, becoming involved in the community, and building the right combination of technical knowledge and people skills to solve problems and get things done professionally and amicably. Simmons and Carstarphen pay special attention to these aspects of the job in this new edition of their comprehensive book on SQL Server administration. Helps you manage a SQL Server 2012 database at professional level Covers the gamut of database administration skills Provides guidance on performance optimization

DBA Survivor is a book to help new database administrators understand more about the world of database administration. More and more people are moving into the DBA profession, and many are looking for a getting-started guide. Blogs are written about how to be an exceptional DBA and what to do in your first 100 days. This book takes a different approach, injecting some humor into helping you understand how to hit the ground running, and most importantly how to survive as a DBA. And it's not just survival that matters. Author Thomas LaRock wants much more for you than mere survival. He wants you to have excellence, competence, visibility, confidence, and service. These are the traits and characteristics of DBAs who truly succeed and become respected in their profession. Don't settle for just muddling through your job each day. Strive to excel. Aim to make a difference, for your clients, and for your colleagues. Focuses on the soft skills that distinguish truly exceptional DBAs Takes a humorous approach to keep readers engaged Written by a SQL Server "Most Valuable Professional" and board member of PASS

Every business has reams of business data locked away in databases, business systems, and spreadsheets. While you may be able to build some reports by pulling a few of these repositories together, actually performing any kind of analysis on the data that runs your business can range from problematic to impossible. Pro SQL Server 2008 Analysis Services will show you how to pull that data together and present it for reporting and analysis in a way that makes the data accessible to business users, instead of needing to rely on the IT department every time someone needs a different report. Accessible—With a single author's voice, this book conducts a guided tour through the technology that makes it easy to dive into. Solution-oriented—While technically deep, the goal is to focus on practical application of the technologies instead of acting as a technical manual. Comprehensive—This book covers every aspect of analysis services and ancillary technologies to enable you to make the most of SQL Server.

* An essential book for new and migration projects for SQL Server 2005: will ensure that that such projects have a well-designed database and secure, optimized data access strategies right from the start. * Describes all new SQL Server 2005 features related to physical database design and provides completely new chapters on designing for fast data access, and exploiting .NET code in the database

for optimum distribution of application logic. * An excellent foundation for MCAD/MCSE/MCDBA Database Design and Implementation exam. * Deep experience and advice, along with many tips or tricks, from an MVP lead author with over ten years of experience with SQL Server.

Pro SQL Server 2008 Failover Clustering is dedicated to the planning, implementation, and administration of clustered SQL Server 2008 implementations. Whether deploying a single-instance, two-node cluster or a multiple-node, many-instance cluster for consolidation, this book will detail all of the considerations and pitfalls that may be encountered along the way. Clustering and high-availability expert Allan Hirt shares his many years of wisdom and experience, showing how to put together the right combination of people, processes, technology, and best practices to create and manage world-class, highly available SQL Server 2008 failover clusters. Provides a comprehensive look at SQL Server 2008 failover clustering from the first steps of planning to daily administration Goes beyond just SQL Server 2008 and also covers Windows Server 2008 clustering in depth with a SQL Server focus Covers how and where virtualization can be used with failover clusters Addresses the needs of enterprise-class, 24/7 SQL Server 2008 implementations Written by the leading expert on SQL Server failover clustering

Use this comprehensive guide for the SQL Server DBA, covering all that practicing database administrators need to know to get their daily work done. Updated for SQL Server 2019, this edition includes coverage of new features such as Memory-optimized TempDB Metadata, and Always Encrypted with Secure Enclaves. Other new content includes coverage of Query Store, resumable index operations, installation on Linux, and containerized SQL. Pro SQL Server 2019 Administration takes DBAs on a journey that begins with planning their SQL Server deployment and runs through installing and configuring the instance, administering and optimizing database objects, and ensuring that data is secure and highly available. Finally, readers will learn how to perform advanced maintenance and tuning techniques. This book teaches you to make the most of new SQL Server 2019 functionality, including Data Discovery and Classification. The book promotes best-practice installation, shows how to configure for scalability and high workloads, and demonstrates the gamut of database-level maintenance tasks such as index maintenance, database consistency checks, and table optimizations. What You Will Learn Install and configure SQL Server on Windows through the GUI and with PowerShell Install and configure SQL Server on Linux and in Containers Optimize tables through in-memory OLTP, table partitioning, and the creation of indexes Secure and encrypt data to protect against embarrassing data breaches Ensure 24x7x365 access through high-availability and disaster recovery features Back up your data to ensure against loss, and recover data when needed Perform routine maintenance tasks such as database consistency checks Troubleshoot and solve performance problems in SQL queries and in the database engine Who This Book Is For SQL Server DBAs who manage on-premise installations of SQL Server. This book is also useful for DBAs who wish to learn advanced features such as Query Store, Extended Events, Distributed Replay, and Policy-Based Management, or those who need to install SQL Server in a variety of environments.

The new edition of the successful previous version is 25 percent revised and packed with more than 200 pages of new material on the 2008 release of SQL Server Integration Services (SSIS) Renowned author Brian Knight and his expert coauthors show developers how to master the 2008 release of SSIS, which is both more powerful and more complex than ever Case studies and tutorial examples acquired over the three years since the previous edition will contribute to helping illustrate advanced concepts and techniques New chapters include coverage of data warehousing using SSIS, new methods for managing the SSIS platform, and improved techniques for ETL operations

Get the most out of the rich development capabilities of SQL Server 2016 to build efficient database applications for your organization About This Book Utilize the new enhancements in Transact-SQL and security features in SQL Server 2016 to build efficient database applications Work with temporal tables to get information about data stored in the table at any point in time A detailed guide to SQL Server 2016, introducing you to multiple new features and enhancements to improve your overall development experience Who This Book Is For This book is for database developers and solution architects who plan to use the new SQL Server 2016 features for developing efficient database applications. It is also ideal for experienced SQL Server developers who want to switch to SQL Server 2016 for its rich development capabilities. Some understanding of the basic database concepts and Transact-SQL language is assumed. What You Will Learn Explore the new development features introduced in SQL Server 2016 Identify opportunities for In-Memory OLTP technology, significantly enhanced in SQL Server 2016 Use columnstore indexes to get significant storage and performance improvements Extend database design solutions using temporal tables Exchange JSON data between applications and SQL Server in a more efficient way Migrate historical data transparently and securely to Microsoft Azure by using Stretch Database Use the new security features to encrypt or to have more granular control over access to rows in a table Simplify performance troubleshooting with Query Store Discover the potential of R's integration with SQL Server In Detail Microsoft SQL Server 2016 is considered the biggest leap in the data platform history of the Microsoft, in the ongoing era of Big Data and data science. Compared to its predecessors, SQL Server 2016 offers developers a unique opportunity to leverage the advanced features and build applications that are robust, scalable, and easy to administer. This book introduces you to new features of SQL Server 2016 which will open a completely new set of possibilities for you as a developer. It prepares you for the more advanced topics by starting with a quick introduction to SQL Server 2016's new features and a recapitulation of the possibilities you may have already explored with previous versions of SQL Server. The next part introduces you to small delights in the Transact-SQL language and then switches to a completely new technology inside SQL Server - JSON support. We also take a look at the Stretch database, security enhancements, and temporal tables. The last chapters concentrate on implementing advanced topics, including Query Store, columnstore indexes, and In-Memory OLTP. You will finally be introduced to R and how to use the R language with Transact-SQL for data exploration and analysis. By the end of this book, you will have the required information to design efficient, high-performance database applications without any hassle. Style and approach This book is a detailed guide to mastering the development features offered by SQL Server 2016, with a unique learn-as-you-do approach. All the concepts are explained in a very easy-to-understand manner and are supplemented with examples to ensure that you—the developer—are able to take that next step in building more powerful, robust applications for your organization with ease.

Learn to design more effective and sophisticated business reports While most users of SQL Server Reporting Services are now comfortable designing and building simple reports, business today demands increasingly complex reporting. In this book, top Reporting Services design experts have contributed step-by-step recipes for creating various types of reports. Written by well-known SQL Server Reporting Services experts, this book gives you the tools to meet your clients' needs

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

Get a fast start to using AlwaysOn, the SQL Server solution to high-availability and disaster recovery. This third edition is newly updated to cover the 2019 editions of both SQL Server and Windows Server and includes strong coverage of implementing AlwaysOn Availability Groups on both Windows and Linux operating systems. The book provides a solid and accurate understanding of how to implement systems requiring consistent and continuous uptime, as well as how to troubleshoot those systems in order to keep them running and reliable. This edition is updated to account for all new major functionality and also includes coverage of implementing atypical configurations, such as clusterless and domain-independent Availability Groups, distributed Availability Groups, and implementing Availability Groups on Azure. The book begins with an introduction to high-availability and disaster recovery concepts such as Recovery Point Objectives (RPOs), Recovery Time Objectives (RTOs), availability levels, and the cost of downtime. You'll then move into detailed coverage of implementing and configuring the AlwaysOn feature set in order to meet the business objectives set by your organization. Content includes coverage on implementing clusters, building AlwaysOn failover clustered instances, and configuring AlwaysOn Availability Groups. SQL Server 2019 AlwaysOn is chock full of real-world advice on how to build and configure the most appropriate topology to meet the high-availability and disaster recovery requirements you are faced with, as well as how to use AlwaysOn Availability Groups to scale-out read-only workloads. This is a practical and hands-on book to get you started quickly in using one of the most talked-about SQL Server feature sets. What You Will Learn Understand high availability and disaster recovery in SQL Server 2019 Build and configure a Windows Cluster in Windows Server 2019 Create and configure an AlwaysOn failover clustered instance Implement AlwaysOn Availability Groups and appropriately configure them Implement AlwaysOn Availability Groups on Linux servers Configure Availability Groups on Azure IaaS Administer AlwaysOn technologies post implementation Understand typical configurations, such as clusterless and distributed Availability Groups Who This Book Is For For Microsoft SQL Server database administrators who interested in growing their knowledge and skills in SQL Server's high-availability and disaster recovery feature set.

Pro SQL Server 2008 Replication is for Microsoft database developers and administrators who want to learn about the different types of replication and those best suited to SQL Server 2008. This book will also cover advanced topics like replication with heterogeneous databases, backup and recovery of replicated databases, database mirroring with replication, log shipping with replication, troubleshooting, plus optimization and tuning. Tools like tablediff, SQLCMD, DTA, SQL Profiler, and Replication Monitor will be discussed to demonstrate the different techniques used in monitoring, administering, and troubleshooting replication. Examines the detailed configuration and the internal workings of the different replication types using real-life scenarios Covers replication with database mirroring and troubleshooting Discusses replication administration using different tools

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

Pro SQL Server Administration brings SQL Server administration into the modern era with strong coverage of hybrid cloud environments, In-Memory OLTP, and installation on Server Core. This comprehensive guide to SQL Server Administration for today's DBA helps you to administer the new and key areas of SQL Server, including Columnstore indexes and the In-Memory OLTP feature set introduced in 2014. You will also be guided through the administration of traditional areas of SQL Server, including how to secure your instance, monitor and maintain your instance, and to use features such as AlwaysOn to make your instance highly available. Also covered is the use of SQL Server features to scale out read-only workloads. Pro SQL Server Administration is an all-new book taking up-to-date and modern approach that you'll want and need to further your career as a SQL Server database administrator. Extensive coverage of hybrid cloud environments involving Azure SQL Database Detailed discussions on all new, key features, including AlwaysOn and in-memory support Comprehensive coverage of key skills, such as monitoring, maintenance and indexing

Get SQL Server up and running on the Linux operating system and containers. No database professional managing or developing SQL Server on Linux will want to be without this deep and authoritative guide by one of the most respected experts on SQL Server in the industry. Get an inside look at how SQL Server for Linux works through the eyes of an engineer on the team that made it possible. Microsoft SQL Server is one of the leading database platforms in the industry, and SQL Server 2017 offers developers and administrators the ability to run a database management system on Linux, offering proven support for enterprise-level features and without onerous licensing terms. Organizations invested in Microsoft and open source technologies are now able to run a unified database platform across all their operating system investments. Organizations are further able to take full advantage of containerization through popular platforms such as Docker and Kubernetes. Pro SQL Server on Linux walks you through installing and configuring SQL Server on the Linux platform. The author is one of the principal architects of SQL Server for Linux, and brings a corresponding depth of knowledge that no database professional or developer on Linux will want to be without. Throughout this book are internals of how SQL Server on Linux works including an in depth look at the innovative ar-

chitecture. The book covers day-to-day management and troubleshooting, including diagnostics and monitoring, the use of containers to manage deployments, and the use of self-tuning and the in-memory capabilities. Also covered are performance capabilities, high availability, and disaster recovery along with security and encryption. The book covers the product-specific knowledge to bring SQL Server and its powerful features to life on the Linux platform, including coverage of containerization through Docker and Kubernetes. What You'll Learn Learn about the history and internal of the unique SQL Server on Linux architecture. Install and configure Microsoft's flagship database product on the Linux platform Manage your deployments using container technology through Docker and Kubernetes Know the basics of building databases, the T-SQL language, and developing applications against SQL Server on Linux Use tools and features to diagnose, manage, and monitor SQL Server on Linux Scale your application by learning the performance capabilities of SQL Server Deliver high availability and disaster recovery to ensure business continuity Secure your database from attack, and protect sensitive data through encryption Take advantage of powerful features such as Failover Clusters, Availability Groups, In-Memory Support, and SQL Server's Self-Tuning Engine Learn how to migrate your database from older releases of SQL Server and other database platforms such as Oracle and PostgreSQL Build and maintain schemas, and perform management tasks from both GUI and command line Who This Book Is For Developers and IT professionals who are new to SQL Server and wish to configure it on the Linux operating system. This book is also useful to those familiar with SQL Server on Windows who want to learn the unique aspects of managing SQL Server on the Linux platform and Docker containers. Readers should have a grasp of relational database concepts and be comfortable with the SQL language.

Learn the basics of Microsoft Azure and see how SQL Server on Azure VMs (Infrastructure-as-a-Service) and Azure SQL Databases (Platform-as-a-Service) work. This concise book shows you how to deploy, operate, and maintain your data using any one or a combination of these offerings along with your on-premise environment. Pro SQL Server on Microsoft Azure is a quintessential book for any IT professional who is planning to host their data on Microsoft Azure. This book will not only equip you with the tips, tricks, and tools to manage SQL Server offerings on Azure, but will also help you in deciding between PaaS, IaaS, or hybrid. In the ever-changing world of operations, IT administrators and SQL Server DBAs often find that the biggest challenges occur once they've deployed to the cloud.

This is precisely why Pro SQL Server on Microsoft Azure was written; it will help you master today's cloud world. What You'll Learn Understand the Microsoft Azure IaaS architecture Work with Azure Storage and Networking Deploy SQL Server on Azure VMs using best practices Apply effective security principles to SQL Azure Databases Measure and optimize the performance of SQL Server offerings on Azure Implement Business continuity and disaster recovery options with Azure SQL Databases Who This Book Is For This book is for IT admins and SQL Server DBAs who are managing or would be managing SQL Server deployments on Microsoft Azure. v>

Pro SQL Server 2008 Administration is critical for database administrators seeking in-depth knowledge on administering SQL Server 2008. This book covers the impact of the new features available in SQL Server 2008 specifically targeted for database administrators, along with the tried-and-true advanced techniques required to support and maintain Microsoft SQL Server. Introduces new administration features of SQL Server 2008 Shows how to manage a SQL Server 2008 database at professional level Provides guidance on performance optimization

Written for the developer, the DBA, and the data artisan, Pro SQL Server 2005 Integration Services will show you how to develop and deploy enterprise SSIS solutions in multibillion-item environments. In addition, it details how to build bespoke custom components tailored to your project's exact requirements as well as create performant and scalable solutions with an eye to future requirements and upgrades. Written by an author who has been using SSIS since its inception this book uses efficient best practice methods to achieve results for the most demanding user.

This book provides a comprehensive overview on best practices for troubleshooting and performance tuning in SQL Server. It reviews how to identify performance issues, how to troubleshoot the system in a holistic fashion, and how to properly prioritize tuning efforts in order to induce the best system performance possible. The book also discusses interdependencies between database components, while spotlighting ways to avoid the bottlenecks that can be triggered by those dependencies. The troubleshooting and performance tuning techniques presented in the book are compatible with any version of SQL Server. They cover both on-premise and Cloud-based SQL Server installations, including Microsoft Azure SQL Databases and Amazon SQL Server RDS. Reflecting the approaches used by many high-end SQL Server consultants, SQL Server Advanced Troubleshooting and Performance Tuning is a valuable resource that will help readers master troubleshooting and performance tuning skills and get the best performance out of SQL Server.