Sql Server 2016 Developers Guide

Design and configure SQL Server instances and databases in support of high-throughput applications that are mission-critical and provide consistent response times in the face of variations in user numbers and query volumes. Learn to configure SQL Server and design your databases to support a given instance and workload. You'll learn advanced configuration options, in-memory technologies, storage and disk configuration, and more, all toward enabling your desired application performance and throughput. Configuration doesn't stop with implementation. Workloads change over time, and other impediments can arise to thwart desired performance. High Performance SQL Server covers monitoring and troubleshooting to aid in detecting and fixing production performance problems and minimizing application outages. You'll learn a variety of tools, ranging from the traditional wait analysis methodology to the new query store, and you'll learn how improving performance is really an iterative process. High Performance SQL Server is based on SQL Server 2016, although most of its content can be applied to prior versions of the product. This book is an excellent complement to performance tuning books focusing on SQL queries, and provides the other half of what you need to know by focusing on configuring the instances on which mission-critical queries are executed. Covers SQL Server instance-configuration for optimal performance Helps in implementing SQL Server in-memory technologies Provides guidance toward monitoring and ongoing diagnostics What You Will Learn Understand SQL Server's database engine and how it processes queries Configure instances in support of high-throughput applications Provide consistent response times to varying user numbers and query volumes Design databases for high-throughput applications with focus on performance Record performance baselines and monitor SQL Server instances against them Troubleshot and fix performance problems Who This Book Is For SQL Server database administrators, developers, and data architects. The book is also of use to system administrators who are managing and are responsible for the physical servers on which SQL Server instances are run.

Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. Get Up to Speed on Microsoft® SQL Server® 2019 Quickly and Easily Start working with Microsoft SQL Server 2019 in no time with help from this thoroughly revised, practical resource. Filled with real-world examples and hands-on exercises, Microsoft SQL Server 2019: A Beginner's Guide, Seventh Edition starts by explaining fundamental relational database system concepts. From there, you'll learn how to write Transact-SQL statements, execute simple and complex database queries, handle system administration and security, and use powerful analysis and reporting tools. New topics such as SQL and JSON support, graph databases, and support for machine learning with R and Python are also covered in this step-by-step tutorial. • Install, configure, and customize Microsoft SQL Server 2019 • Create and modify database objects with Transact-SQL statements • Write stored procedures and user-defined functions • Handle backup and recovery, and automate administrative tasks • Tune your database system for optimal availability and reliability • Secure your system using authentication, encryption, and authorization • Work with SQL Server Analysis Services, Reporting Services, and other BI tools • Gain knowledge of relational storage, presentation, and retrieval of data stored in the JSON format • Manage graphs using SQL Server Graph Databases • Learn about machine learning support for R and Python

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. --

If you're an application developer, or you're training to be one, this 2016 edition of Murach's classic SQL Server book is made for you. To start, it presents the SQL statements that you need to retrieve and update the data in a database. These are the SQL statements that you'll use every day. Then, it shows you how to design a database, how to implement that design, and how to work with database features like views, scripts, stored procedures, functions, triggers, transactions, security, XML data, BLOB data with FILESTREAM storage, and the CLR integration feature. The result? You'll be able to create database applications that are thoroughly professional. You'll be familiar with the DBA-related issues that let you work far more effectively than most of your colleagues. And you'll have a handy reference at your side to answer questions and handle new challenges as they come up.

10+ Hours of Video Instruction Get up and running in designing, and implementing ETL solutions using SSIS 2016. Description Extract, Transform, and Load (ETL) processes have become a necessity in IT today. Being able to move data from one place to another has become a cornerstone in just about every company worldwide. SQL Server 2016 provides Integration Services (SSIS) that allow database administrators (DBAs) and developers alike to create and deploy advanced ETL packages to leverage the data within their organizations. Whether a company has a one-time data copy or a large ETL process to design, they want to be able to complete their work as easily as possible. With SSIS now being included with the SQL Server platform, it is one of the easiest and most cost-effective methods available to a shop running SQL Server. IT shops can have hundreds of software developers, all running and developing applications for SQL Server. In addition, hundreds of third-party applications use SQL Server for storage. All this data, sooner or later,

will require that companies be able to consolidate and analyze it. Familiarity with an ETL tool will become an absolute necessity when data needs to be moved for consolidation, reporting, and data mining. Introduction to SQL Server 2016 Integration Services (SSIS) LiveLessons covers the basic building blocks of SSIS. Topics include design best practices, control flows, data flows, and deployment and scheduling of packages. About the Instructor Eric Johnson (MCSE, MCDBA, MCSD) is co-founder of Consortio Services, and the company's primary Database Technologies Consultant. His background in information technology is diverse'Äîranging from operating systems and hardware, specialized applications and development, to a fair amount of work on networks. Since IT is really just a way to support business processes, he also acquired an MBA. Eric has almost 20 years of IT experience, with a good number of those dedicated to working with Microsoft SQL Server. Eric has managed and designed databases of all shapes and sizes, and has delivered numerous SQL Server training classes and webcasts, as well as presentations at national technology conferences. He also does a good deal of writing, including the four-part series "Tour de SQL" published in Redmond magazine, and the book A Developer's Guide to Data Modeling for SQL Server (Addison-Wesley, 2008). Look for Eric's other LiveLessons video training, including S QL Server 201...

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

This book is an easy-to-follow, comprehensive guide that is full of hands-on examples, which you can follow to successfully design, build, and deploy mission-critical database applications with SQL Server 2014. If you are a database developer, architect, or administrator who wants to learn how to design, implement, and deliver a successful database solution with SQL Server 2014, then this book is for you. Existing users of Microsoft SQL Server will also benefit from this book as they will learn what's new in the latest version.

Learn C# in 7 days with practical examples, build a foundation for C# programming, and boost your skills to an advanced level About This Book Learn the basics of C# in 7 days Works as a reference guide describing the major features of C# Build easy and simple code through real-world example scenarios Who This Book Is For The book is for aspiring developers and absolute novices who want to get started with the world of programming. You do not need any knowledge of C# for this book. What You Will Learn Understand and set up the .NET environment Code in C# using the Visual Studio 2017 RC (preferable community edition) IDE Define variables, syntax, control flows, statements, and arrays etc through examples Understand the concepts of Object-Oriented Programming using C# Get acquainted with attributes, collection, generics, and LINQ Get your hands on class members such as Modifiers, Methods, Properties, Indexers, File I/O, Exception Handling, and Regex Build a real-world application using C# 7 In Detail This book takes a unique approach to teach C# to absolute beginners. You'll learn the basics of the language in seven days. It takes a practical approach to explain the important concepts that build the foundation of the C# programming language. The book begins by teaching you the basic fundamentals using real-world practical examples and gets you acquainted with C# programming. We cover some important features and nuances of the language in a hands-on way, helping you grasp the concepts in a fluid manner. Later, you'll explore the concepts of Object-Oriented Programming (OOP) through a real-world example. Then we dive into advanced-level concepts such as generics and collections, and you'll get acquainted with objects and LINQ. Towards the end, you'll build an application that covers all the concepts explained in the book. By the end of this book, you will have next-level skills and a good knowledge of the fundamentals of C#. Style and approach Fast paced guide to get you up-to-speed with the language. Every chapter is followed by an exercise that focuses on building something with the language. The codes of the exercises can be found on the Packt website

Get introduced to the world of Docker containers from a SQL Server DBA's perspective. This book explains container technology and how it can improve the deployment of your SQL Server databases without infrastructure lock-in. You will be equipped with the right technical skills to guide stakeholders in your business as they adopt and adapt to new technologies to improve time-to-market and competitiveness. You will learn how to build a lab environment at home on which to build skills that transfer directly into your day job. This book teaches you how to install and configure Docker on both Windows Server and Linux operating systems. You will learn the most common Docker commands that you need to know as a DBA to deploy and manage SQL Server on containers. Support for SQL Server on Linux is new, and this book has your back with guidance on creating Docker images specifically for deployment to a Linux platform. Included is coverage of key Linux commands needed to manage SQL Server on that operating system. By the end of the book you will have learned how to create your own custom SQL Server container images with configuration settings that are specific to your organization, that are capable of being deployed to both Windows Server and Linux. What You Will Learn Create Docker containers for agile deployment of SQL Server Run multiple SQL Server instances on a single Linux machine Deploy custom images specific to your organization's needs Know the benefits and architecture

of container technology Install and configure Docker on Windows Server and Linux Manage and persist SQL Server data in Docker containers Who This Book Is For Intermediate to senior SQL Server DBAs who are familiar with SQL Server on Windows and want to build their existing skills to deploy and manage SQL Server on Linux and through Docker containers. Readers should have a grasp of relational database concepts and be comfortable with the Transact-SQL language.

Discussing new and existing features, SQL Server designer and administrator Michael Coles takes you on an expert guided tour of Transact–SQL functionality in SQL Server 2008 in his book, Pro T–SQL 2008 Programmer's Guide. Fully functioning examples and downloadable source code bring Coles' technically accurate and engaging treatment of Transact–SQL into your own hands. Step–by–step explanations ensure clarity, and an advocacy of best–practices will steer you down the road to success. Pro T–SQL 2008 Programmer's Guide is every developer's key to making full use of SQL Server 2008's powerful, built–in Transact–SQL language. Transact–SQL is the language developers and DBAs use to interact with SQL Server. It's used for everything from querying data, to writing stored procedures, to managing the database. New features in SQL Server 2008 include a spatial data type, SQLCLR integration, the MERGE statement, a dramatically improved and market–leading XML feature set, and support for encryption—all of which are covered in this book

Harness the power of SQL Server 2017 Integration Services to build your data integration solutions with ease About This Book Acquaint yourself with all the newly introduced features in SQL Server 2017 Integration Services Program and extend your packages to enhance their functionality This detailed, step-by-step guide covers everything you need to develop efficient data integration and data transformation solutions for your organization Who This Book Is For This book is ideal for software engineers, DW/ETL architects, and ETL developers who need to create a new, or enhance an existing, ETL implementation with SQL Server 2017 Integration Services. This book would also be good for individuals who develop ETL solutions that use SSIS and are keen to learn the new features and capabilities in SSIS 2017. What You Will Learn Understand the key components of an ETL solution using SQL Server 2016-2017 Integration Services Design the architecture of a modern ETL solution Have a good knowledge of the new capabilities and features added to Integration Services Implement ETL solutions using Integration Services for both on-premises and Azure data Improve the performance and scalability of an ETL solution Enhance the ETL solution using a custom framework Be able to work on the ETL solution with many other developers and have common design paradigms or techniques Effectively use scripting to solve complex data issues In Detail SQL Server Integration Services is a tool that facilitates data extraction, consolidation, and loading options (ETL), SQL Server coding enhancements, data warehousing, and customizations. With the help of the recipes in this book, you'll gain complete hands-on experience of SSIS 2017 as well as the 2016 new features, design and development improvements including SCD, Tuning, and Customizations. At the start, you'll learn to install and set up SSIS as well other SQL Server resources to make optimal use of this Business Intelligence tools. We'll begin by taking you through the new features in SSIS 2016/2017 and implementing the necessary features to get a modern scalable ETL solution that fits the modern data warehouse. Through the course of chapters, you will learn how to design and build SSIS data warehouses packages using SQL Server Data Tools. Additionally, you'll learn to develop SSIS packages designed to maintain a data warehouse using the Data Flow and other control flow tasks. You'll also be demonstrated many recipes on cleansing data and how to get the end result after applying different transformations. Some real-world scenarios that you might face are also covered and how to handle various issues that you might face when designing your packages. At the end of this book, you'll get to know all the key concepts to perform data integration and transformation. You'll have explored on-premises Big Data integration processes to create a classic data warehouse, and will know how to extend the toolbox with custom tasks and transforms. Style and approach This cookbook follows a problem-solution approach and tackles all kinds of data integration scenarios by using the capabilities of SQL Server 2016 Integration Services. This book is well supplemented with screenshots, tips, and tricks. Each recipe focuses on a particular task and is written in a very easy-to-follow manner.

Your hands-on, step-by-step guide to building applications with Microsoft SQL Server 2012 Teach yourself the programming fundamentals of SQL Server 2012—one step at a time. Ideal for beginning SQL Server database administrators and developers, this tutorial provides clear guidance and practical, learn-by-doing exercises for building database solutions that solve real-world business problems. Discover how to: Install and work with core components and tools Create tables and index structures Manipulate and retrieve data Secure, manage, back up, and recover databases Apply techniques for building high-performing applications Use clustering, database mirroring, and log shipping

If you're an application developer, or you're training to be one, this latest edition of Murach's classic SQL Server book is made for you. To start, it presents the SQL statements that you need to retrieve and update the data in a database. These are the SQL statements that you'll use every day. Then, it shows you how to design a database, how to implement that design, and how to work with database features like views, scripts, stored procedures, functions, triggers, transactions, security, XML data, and BLOB data with FILESTREAM storage. The result? You'll be able to create database applications that are thoroughly professional. You'll be familiar with the DBA-related issues that let you work far more effectively than most of your colleagues. And you'll have a handy reference at your side to answer questions and handle new challenges as they come up.

A Detailed Look at Data Processing Extensions

This is not an ordinary SQL Server Book. SQL Server MVP Deep Dives brings together the world's most highly-regarded SQL Server experts to create a masterful collection of tips, techniques, and experience-driven best practices for SQL Server development and administration. These SQL Server MVPs-53 in all-each selected a topic of great interest to them, and in this unique book, they share their knowledge and passion with you. SQL Server MVP Deep Dives is organized into five parts: Design and Architecture, Development, Administration, Performance Tuning and Optimization, and Business Intelligence. Within each part, you'll find a collection of brilliantly concise and focused chapters that take on key topics like mobile data strategies, Dynamic Management Views, or query performance. The range of subjects covered is comprehensive, from database design tips to data profiling strategies for BI. Additionally, the authors of this book have generously donated 100% of their royalties to support War Child International. War Child International is a network of independent organizations, working across the world to help children affected by war. War Child was founded upon a fundamental goal: to advance the cause of peace through investing hope in the lives of children caught up in the horrors of war. War Child works in many different conflict areas around the world, helping hundreds of thousands of children every year. Visit www.warchild.org for more information. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book.

Leverage the power of SQL Server 2017 Integration Services to build data integration solutions with ease Key Features Work with temporal tables to access information stored in a table at any time Get familiar with the latest features in SQL Server 2017 Integration Services Program and extend your packages to enhance their functionality Book Description Microsoft SQL Server 2017 uses the power of R and Python for machine learning and containerization-based deployment on Windows and Linux. By learning how to use the features of SQL Server 2017 effectively, you can build scalable apps and easily perform data integration and transformation. You'll start by brushing up on the features of SQL Server 2017. This Learning Path will then demonstrate how you can use Query Store, columnstore indexes, and In-Memory OLTP in your apps. You'll also learn to integrate Python code in SQL Server and graph database implementations for development and testing. Next, you'll get up to speed with designing and building SQL Server Integration Services (SSIS) data warehouse packages using SQL server data tools. Toward the concluding chapters, you'll discover how to develop SSIS packages designed to maintain a data warehouse using the data flow and other control flow tasks. By the end of this Learning Path, you'll be equipped with the skills you need to design efficient, high-performance database applications with confidence. This Learning Path includes content from the following Packt

books: SQL Server 2017 Developer's Guide by Miloš Radivojevi?, Dejan Sarka, et. al SQL Server 2017 Integration Services Cookbook by Christian Cote, Dejan Sarka, et. al What you will learn Use columnstore indexes to make storage and performance improvements Extend database design solutions using temporal tables Exchange JSON data between applications and SQL Server Migrate historical data to Microsoft Azure by using Stretch Database Design the architecture of a modern Extract, Transform, and Load (ETL) solution Implement ETL solutions using Integration Services for both on-premise and Azure data Who this book is for This Learning Path is for database developers and solution architects looking to develop ETL solutions with SSIS, and explore the new features in SSIS 2017. Advanced analysis practitioners, business intelligence developers, and database consultants dealing with performance tuning will also find this book useful. Basic understanding of database concepts and T-SQL is required to get the best out of this Learning Path.

Build smarter and efficient database application systems for your organization with SQL Server 2017 Key Features Build database applications by using the development features of SQL Server 2017 Work with temporal tables to get information stored in a table at any time Use adaptive querying to enhance the performance of your queries Book Description Microsoft SQL Server 2017 is the next big step in the data platform history of Microsoft as it brings in the power of R and Python for machine learning and containerization-based deployment on Windows and Linux. Compared to its predecessor, SQL Server 2017 has evolved into Machine Learning with R services for statistical analysis and Python packages for analytical processing. This book prepares you for more advanced topics by starting with a quick introduction to SQL Server 2017'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 enhancements in the Transact-SQL language and new database engine capabilities 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. Furthermore, the book focuses on implementing advanced topics, including Query Store, columnstore indexes, and In-Memory OLTP. Towards the end of the book, you'll be introduced to R and how to use the R language with Transact-SQL for data exploration and analysis. You'll also learn to integrate Python code in SQL Server and graph database implementations along with deployment options on Linux and SQL Server in containers for development and testing. By the end of this book, you will have the required information to design efficient, high-performance database applications without any hassle. What you will learn Explore the new development features introduced in SQL Server 2017 Identify opportunities for In-Memory OLTP technology Use columnstore indexes to get storage and performance improvements Exchange JSON data between applications and SQL Server Use the new security features to encrypt or mask the data Control the access to the data on the row levels Discover the potential of R and Python integration Model complex relationships with the graph databases in SQL Server 2017 Who this book is for Database developers and solution architects looking to design efficient database applications using SQL Server 2017 will find this book very useful. In addition, this book will be valuable to advanced analysis practitioners and business intelligence developers. Database consultants dealing with performance tuning will get a lot of useful information from this book as well. Some basic understanding of database concepts and T-SQL is required to get the best out of this book.

Get unique insights from your data by combining the power of SQL Server, R and Python Key Features Use the features of SQL Server 2017 to implement the data science project life cycle Leverage the power of R and Python to design and develop efficient data models find unique insights from your data with powerful techniques for data preprocessing and analysis Book Description SQL Server only started to fully support data science with its two most recent editions. If you are a professional from both worlds, SQL Server and data science, and interested in using SQL Server and Machine Learning (ML) Services for your projects, then this is the ideal book for you. This book is the ideal introduction to data science with Microsoft SQL Server and In-Database ML Services. It covers all stages of a data science project, from businessand data understanding,through data overview, data preparation, modeling and using algorithms, model evaluation, and deployment. You will learn to use the engines and languages that come with SQL Server, including ML Services with R and Python languages and Transact-SQL. You will also learn how to choose which algorithm to use for which task, and learn the working of each algorithm. What you will learn Use the popular programming languages,T-SQL, R, and Python, for data science Understand your data with queries and introductory statistics Create and enhance the datasets for ML Visualize and analyze data using basic and advanced graphs Explore ML using unsupervised and supervised models Deploy models in SQL Server and perform predictions Who this book is for SQL Server professionals who want to start with data science, and data scientists who would like to start using SQL Server in their projects will find this book to be useful. Prior exposure to SQL Server will be helpful.

Pro T–SQL 2012 Programmer's Guide is every developer's key to making full use of SQL Server 2012's powerful, built–in Transact–SQL language. Discussing new and existing features, the book takes you on an expert guided tour of Transact–SQL functionality. Fully functioning examples and downloadable source code bring technically accurate and engaging treatment of Transact–SQL into your own hands. Step–by–step explanations ensure clarity, and an advocacy of best–practices will steer you down the road to success. Transact–SQL is the language developers and DBAs use to interact with SQL Server. It's used for everything from querying data, to writing stored procedures, to managing the database. New features in T-SQL 2012 include full support for window functions, stored sequences, the ability to throw errors, data paging, and more. All these important new features are covered in this book. Developers and DBAs alike can benefit from the expressive power of Transact-SQL, and Pro T-SQL 2012 Programmer's Guide provides the gateway to success in applying this increasingly important database language to everyday business and technical tasks.

Up-to-Date Coverage of Microsoft® SQL Server® 2016 Reporting Services, Including the Mobile Report Publisher Build, publish, and maintain paginated and mobile reports using the expert tips and best practices contained in this hands-on guide. Written by a member of the original Reporting Services development team, Microsoft SQL Server 2016 Reporting Services, Fifth Edition, fully explains the process of creating and distributing reports and shows how to maximize all of the powerful, integrated SSRS capabilities, including the new and enhanced features. A detailed case study and sample reports are featured in this practical resource. • Plan for, install, configure, and customize SQL Server 2016 Reporting Services • Design and generate feature-rich reports using the Report Wizard • Work with Report Designer in Visual Studio, Report Builder, and the Mobile Report Publisher • Incorporate charts, images, gauges, and maps • Enhance your reports through summarizing, totaling, and interactivity • Build reusable report templates • Embed Visual Basic .NET functions and subreports • Enable end-user access via the Report Server and its web portal interface • Integrate SSRS reports with your own websites and custom applications • Follow along with sample reports from the book's case study

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.

Implement and administer successful database solution with SQL Server 2017 About This Book Master the required skills to successfully set up, administer, and maintain your SQL Server 2017 database solution Design and configure, manage, and secure a rock-solid SQL server Comprehensive guide in keeping your SQL server disaster proof and all-time availability Who This Book Is For This book targets database administrators with an interest in SQL Server 2017 administration. Readers are expected to have some experience with previous SQL Server versions. What You Will Learn Learn about the new features of SQL Server 2017 and how to implement them Build a stable and fast SQL Server environment Fix performance issues by optimizing queries and making use of indexes Perform a health check of an existing troublesome database environment Design and use an optimal database management strategy Implement efficient backup and recovery techniques in-line with security policies Combine SQL Server 2017 and Azure and manage your solution by various automation techniques Perform data migration, cluster upgradation and server consolidation In Detail Take advantage of the real power of SQL Server 2017 with all its new features, in addition to covering core database administration tasks. This book will give you a competitive advantage by helping you quickly learn how to design, manage, and secure your database solution. You will learn how to set up your SQL Server and configure new (and existing) environments for optimal use. After covering the designing aspect, the book delves into performance-tuning aspects by teaching you how to effectively use indexes. The book will also teach you about certain choices that need to be made about backups and how to implement a rock-solid security policy and keep your environment healthy. Finally, you will learn about the techniques you should use when things go wrong, and other important topics - such as migration, upgrading, and consolidation - are covered in detail. Integration with Azure is also covered in depth. Whether you are an administrator or thinking about entering the field, this book will provide you with all the skills you need to successfully create, design, and deploy databases using SQL Server 2017. Style and approach A comprehensive guide for database professionals, covering a wide range of topics from installation, maintenance, and configuration to managing systems for operational efficiency and high availability; best practices for maintaining a highly reliable database solution are also supplied from industry experts.

With Microsoft SQL Server 2016, a variety of new features and enhancements to the data platform deliver breakthrough performance, advanced security, and richer, integrated reporting and analytics capabilities. In this ebook, we introduce new security features: Always Encrypted, Row-Level Security, and dynamic data masking; discuss enhancements that enable you to better manage performance and storage: TemDB configuration, query store, and Stretch Database; review several improvements to Reporting Services; and also describe AlwaysOn Availability Groups, tabular enhancements, and R integration.

Portable and precise, this pocket-sized guide delivers ready answers for the day-to-day administration of SQL Server. Zero in on core support and maintenance tasks using quick-reference tables, instructions, and lists. You'll get the focused information you need to save time and get the job done—whether at your desk or in the field! Get fast facts to: Manage SQL Server services and clients Configure, manage, and tune servers Implement policy-based management Administer security and access Monitor server activity and tune performance Automate maintenance Perform backups and recovery

Master the advanced concepts of PL/SQL for professional-level certification and learn the new capabilities of Oracle Database 12c About This Book Learn advanced application development features of Oracle Database 12c and prepare for the 1Z0-146 examination Build robust and secure applications in Oracle PL/SQL using the best practices Packed with feature demonstrations and illustrations that will help you learn and understand the enhanced capabilities of Oracle Database 12c Who This Book Is For This book is for Oracle developers responsible for database management. Readers are expected to have basic knowledge of Oracle Database and the fundamentals of PL/SQL programming. Certification aspirants can use this book to prepare for 1Z0-146 examination in order to be an Oracle Certified Professional in Advanced PL/SQL. What You Will Learn Learn and understand the key SQL and PL/SQL features of Oracle Database 12c Understand the new Multitenant architecture and Database In-Memory option of Oracle Database 12c Know more about the advanced concepts of the Oracle PL/SQL language such as external procedures, securing data using Virtual Private Database (VPD), SecureFiles, and PL/SQL code tracing and profiling Implement Virtual Private Databases to prevent unauthorized data access Trace, analyze, profile, and debug PL/SQL code while developing database applications Integrate the new application development features of Oracle Database 12c with the current concepts Discover techniques to analyze and maintain PL/SQL code Get acquainted with the best practices of writing PL/SQL code and develop secure applications In Detail Oracle Database is one of the most popular databases and allows users to make efficient use of their resources and to enhance service levels while reducing the IT costs incurred. Oracle Database is sometimes compared with Microsoft SQL Server, however, Oracle Database clearly supersedes SQL server in terms of high availability and addressing planned and unplanned downtime. Oracle PL/SQL provides a rich platform for application developers to code and build scalable database applications and introduces multiple new features and enhancements to improve development experience. Advanced Oracle PL/SQL Developer's Guide, Second Edition is a handy technical reference for seasoned professionals in the database development space. This book starts with a refresher of fundamental concepts of PL/SQL, such as anonymous block, subprograms, and exceptions, and prepares you for the upcoming advanced concepts. The next chapter introduces you to the

new features of Oracle Database 12c, not limited to PL/SQL. In this chapter, you will understand some of the most talked about features such as Multitenant and Database In-Memory. Moving forward, each chapter introduces advanced concepts with the help of demonstrations, and provides you with the latest update from Oracle Database 12c context. This helps you to visualize the pre- and post-applications of a feature over the database releases. By the end of this book, you will have become an expert in PL/SQL programming and will be able to implement advanced concepts of PL/SQL for efficient management of Oracle Database. Style and approach The book follows the structure of the Oracle Certification examination but doesn't restrict itself to the exam objectives. Advanced concepts have been explained in an easy-to-understand style, supported with feature demonstrations and case illustrations.

Beginning SQL Server for Developers is the perfect book for developers new to SQL Server and planning to create and deploy applications against Microsoft's market-leading database system for the Windows platform. Now in its fourth edition, the book is enhanced to cover the very latest developments in SQL Server, including the in-memory features that are introduced in SQL Server 2014. Within the book, there are plenty of examples of tasks that developers routinely perform. You'll learn to create tables and indexes, and be introduced to best practices for securing your valuable data. You'll learn design tradeoffs and find out how to make sound decisions resulting in scalable databases and maintainable code. SQL Server 2014 introduces in-memory tables and stored procedures. It's now possible to accelerate applications by creating tables (and their indexes) that reside entirely in memory, and never on disk. These new, in-memory structures differ from caching mechanisms of the past, and make possible the extraordinarily swift execution of certain types of queries such as are used in business intelligence applications. Beginning SQL Server for Developers helps you realize the promises of this new feature set while avoiding pitfalls that can occur when mixing in-memory tables and code with traditional, disk-based tables and code. Beginning SQL Server for Developers takes you through the entire database development process, from installing the software to creating a database to writing the code to connect to that database and move data in and out. By the end of the book, you'll be able to design and create solid and reliable database solutions using SQL Server. Takes you through the entire database application development lifecycle Includes brand new coverage of the in-memory features Introduces the freely-available Express Edition

Up-to-date Microsoft SQL Server 2016 skills made easy! Get up and running on Microsoft SQL Server 2016 in no time with help from this thoroughly revised, practical resource. The book offers thorough coverage of SQL management and development and features full details on the newest business intelligence, reporting, and security features. Filled with new real-world examples and hands-on exercises, Microsoft SQL Server 2016: A Beginner's Guide, Sixth Edition, starts by explaining fundamental relational database system concepts. From there, you will learn how to write Transact-SQL statements, execute simple and complex database queries, handle system administration and security, and use the powerful analysis and BI tools. XML, spatial data, and full-text search are also covered in this step-by-step tutorial. · Revised from the ground up to cover the latest version of SQL Server · Ideal both as a self-study guide and a classroom textbook · Written by a prominent professor and best-selling author

The new version of Access includes upgrades to the product and utilizes the new Windows 95 features to make it even more user-friendly. Upgrading users get familiar features from other Microsoft products, plus great new tools and Wizards. New users will find an intuitive and clear database design tool without needing the skills of an application developer.

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.

T-SQL insiders help you tackle your toughest queries and query-tuning problems Squeeze maximum performance and efficiency from every T-SQL query you write or tune. Four leading experts take an in-depth look at T-SQL's internal architecture and offer advanced practical techniques for optimizing response time and resource usage. Emphasizing a correct understanding of the language and its foundations, the authors present unique solutions they have spent years developing and refining. All code and techniques are fully updated to reflect new T-SQL enhancements in Microsoft SQL Server 2014 and SQL Server 2012. Write faster, more efficient T-SQL code: Move from procedural programming to the language of sets and logic Master an efficient top-

down tuning methodology Assess algorithmic complexity to predict performance Compare data aggregation techniques, including new grouping sets Efficiently perform data-analysis calculations Make the most of T-SQL's optimized bulk import tools Avoid date/time pitfalls that lead to buggy, poorly performing code Create optimized BI statistical queries without additional software Use programmable objects to accelerate queries Unlock major performance improvements with In-Memory OLTP Master useful and elegant approaches to manipulating graphs About This Book For experienced T-SQL practitioners Includes coverage updated from Inside Microsoft SQL Server 2008 T-SQL Querying and Inside Microsoft SQL Server 2008 T-SQL Programming Valuable to developers, DBAs, BI professionals, and data scientists Covers many MCSE 70-464 and MCSA/MCSE 70-461 exam topics

A comprehensive Perl reference contains a CD-Rom with sample scripts and applications from the book, in addition to appendices for the advanced Perl user with an alphabetized function reference for the built-in Perl functions, and much more. Original. (All Users).

Business Intelligence (BI) has emerged as a field which seeks to support managers in decision-making. It encompasses the techniques, methods and tools for conducting analytically-based IT solutions, which are referred to as OLAP (OnLine Analytical Processing). Within this field, SQL has a role as a leader and is continuously evolving to cover both transactional and analytical data management. This book discusses the functions provided by Microsoft® SQL Server 2014/2016 in terms of business intelligence. The analytic functions are considered as an enrichment of the SQL language. They combine a series of practical functions to answer complex analysis requests with all the simplicity, elegance and acquired performance of the SQL language. Drawing on the wide experience of the author in teaching and research, as well as insights from contacts in the industry, this book focuses on the issues and difficulties faced by academics (students and teachers) and professionals engaged in data analysis with the SQL Server 2014/2016 database management system.

Get the most out of the rich development capabilities of SQL Server 2016 to build efficient database applications for your organizationAbout 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 experienceWho This Book Is ForThis 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 ServerIn DetailMicrosoft 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 approachThis 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.

Updated for the latest database management systems -- including MySQL 6.0, Oracle 11g, and Microsoft's SQL Server 2008 -- this introductory guide will get you up and running with SQL quickly. Whether you need to write database applications, perform administrative tasks, or generate reports, Learning SQL, Second Edition, will help you easily master all the SQL fundamentals. Each chapter presents a self-contained lesson on a key SQL concept or technique, with numerous illustrations and annotated examples. Exercises at the end of each chapter let you practice the skills you learn. With this book, you will: Move quickly through SQL basics and learn several advanced features Use SQL data statements to generate, manipulate, and retrieve data Create database objects, such as tables, indexes, and constraints, using SQL schema statements Learn how data sets interact with queries, and understand the importance of subqueries Convert and manipulate data with SQL's built-in functions, and use conditional logic in data statements Knowledge of SQL is a must for interacting with data. With Learning SQL, you'll quickly learn how to put the power and flexibility of this language to work.

Prepare for Microsoft Exam 70-761–and help demonstrate your real-world mastery of SQL Server 2016 Transact-SQL data management, queries, and database programming. Designed for experienced IT professionals ready to advance their status, Exam Ref focuses on the critical-thinking and decision-making acumen needed for success at the MCSA level. Focus on the expertise measured by these objectives: • Filter, sort, join, aggregate, and modify data • Use

subqueries, table expressions, grouping sets, and pivoting • Query temporal and non-relational data, and output XML or JSON • Create views, user-defined functions, and stored procedures • Implement error handling, transactions, data types, and nulls This Microsoft Exam Ref: • Organizes its coverage by exam objectives • Features strategic, what-if scenarios to challenge you • Assumes you have experience working with SQL Server as a database administrator, system engineer, or developer • Includes downloadable sample database and code for SQL Server 2016 SP1 (or later) and Azure SQL Database Querying Data with Transact-SQL About the Exam Exam 70-761 focuses on the skills and knowledge necessary to manage and query data and to program databases with Transact-SQL in SQL Server 2016. About Microsoft Certification Passing this exam earns you credit toward a Microsoft Certified Solutions Associate (MCSA) certification that demonstrates your mastery of essential skills for building and implementing on-premises and cloud-based databases across organizations. Exam 70-762 (Developing SQL Databases) is also required for MCSA: SQL 2016 Database Development certification. See full details at: microsoft.com/learning

SQL is a widely used to access most databases, therefore database developers and system administrators should be familiar with it. This hands-on SQL book will help beginner and intermediate users to write queries that apply complex conditions on a table. The book's unique side by side approach makes it easy for the reader to learn three major query languages in the IT industry. The author has over 20 years of experience in database design. KEY FEATURES: Contains numerous practical screenshots of Oracle SQL, T-SQL, MySQL statements and results. Shows the differences between Oracle SQL, T-SQL and MySQL side by side. Gives a real world experience for SQL developers and database administrators. Sample data is available to work on (available on our website).

With Microsoft SQL Server 2016, a variety of new features and enhancements to the data platform deliver breakthrough performance, advanced security, and richer, integrated reporting and analytics capabilities. In this Preview 2 ebook, we introduce three new security features: Always Encrypted, Row-Level Security, and dynamic data masking; discuss enhancements that enable you to better manage performance and storage: TempDB configuration, query store, and Stretch Database; review several improvements to Reporting Services; and also describe AlwaysOn Availability Groups, tabular enhancement, and R integration. This book is a preview edition because it's not complete; the final edition will be available Spring of 2016.

Explores the foundations of SQL and Transact-SQL programming to teach readers how to develop coding techniques and discover solutions to programming problems, then covers practices, design considerations, and advanced topics. Pro SQL Server Internals explains how different SQL Server components work "under the hood" and how they communicate with each other. This is the practical book with a large number of examples that will show you how various design and implementation decisions affect the behavior and performance of your systems. Pro SQL Server Internals covers a multiple SQL Server versions starting with SQL Server 2005 all the way up to the recently released SQL Server 2014. You'll learn about new SQL Server 2014 features including the new Cardinality Estimator, In-Memory OLTP Engine (codename Hekaton), and Clustered Columnstore Indexes. With Pro SQL Server Internals, you have a solid roadmap for understanding the depth and power of the SQL Server database backend, regardless of the version and edition of SQL Server you use. Pro SQL Server Internals does the following: Explains how to design efficient database schema, 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 logs.

Ace your preparation for Microsoft® Certification Exam 70-461 with this 2-in-1 Training Kit from Microsoft Press®. Work at your own pace through a series of lessons and practical exercises, and then assess your skills with practice tests on CD—featuring multiple, customizable testing options. Maximize your performance on the exam by learning how to: Create database objects Work with data Modify data Troubleshoot and optimize queries You also get an exam discount voucher—making this book an exceptional value and a great career investment.

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