

## Introduction To Sql Server 2017 Administration Inside Out

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.

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 business and 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.

Provides detailed information about Transact-SQL programming and shows specific differences between the Microsoft and Sybase versions of the language.

Summary Learn SQL Server Administration in a Month of Lunches is the perfect way to get started with SQL Server operations, including maintenance, backup and recovery, high availability, and performance monitoring. In about an hour a day over a month, you'll learn exactly what you can do, and what you shouldn't touch. Most importantly, you'll learn the day-to-day tasks and techniques you need to keep SQL Server humming along smoothly. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book Microsoft SQL Server is used by millions of businesses, ranging in size from Fortune 500s to small shops worldwide. Whether you're just getting started as a DBA, supporting a SQL Server-driven application, or you've been drafted by your office as the SQL Server admin, you do not need a thousand-page book to get up and running. Learn SQL Server Administration in a Month of Lunches is the perfect way to get started with SQL Server. This concise, easy-to-read book skips academic introductions and teaches you day-to-day techniques for maintenance, backup and recovery, performance monitoring, and more. Each of the 21 short lessons gives you practical takeaways you'll use over and over. What's Inside Master the basics—indexes, logins, backup, recovery ... and more Learn what you can and cannot do when supporting a third-party application Monitor and improve performance Written by expert trainer and bestselling author Don Jones Accessible to

readers of any level of experience, the book covers techniques for all versions of SQL Server 2005-2014. About the Author Don Jones is a Microsoft MVP, speaker, and trainer. He is the creator of the Month of Lunches series and author of over 50 books on PowerShell, IIS, Active Directory, SCCM, SQL Server, and more. Table of Contents Before you begin Server assessment and configuration T-SQL crash course Managing databases Backup and recovery Authentication: who are you? Authorization: what are you allowed to do? Accounting: what did you do? Analyzing indexes Maintaining indexes Tuning index designs Reading query execution plans Block and deadlock analysis Automating management with SQL Server Agent Multiserver management Windows PowerShell and SQL Server Using Extended Events Monitoring and analyzing performance Options for high availability Virtualizing SQL Server Moving, migrating, and upgrading databases SQL Server performance checklist Never the end SQL Server 2017 Developer's Guide A professional guide to designing and developing enterprise database applications Packt Publishing Ltd

Whether it is learning different techniques to monitor and tune an Azure SQL database or improving performance using in-memory technology, this book will enable you to make the most out of Azure SQL database features and functionality for data management solutions.

Prepare for Microsoft Exam 70-764—and help demonstrate your real-world mastery of skills for database administration. This exam is intended for database administrators charged with installation, maintenance, and configuration tasks. Their responsibilities also include setting up database systems, making sure those systems operate efficiently, and regularly storing, backing up, and securing data from unauthorized access. Focus on the expertise measured by these objectives:

- Configure data access and auditing
- Manage backup and restore of databases
- Manage and monitor SQL Server instances
- Manage high availability and disaster recovery

This Microsoft Exam Ref: • Organizes its coverage by exam objectives • Features strategic, what-if scenarios to challenge you • Assumes you have working knowledge of database installation, configuration, and maintenance tasks. You should also have experience with setting up database systems, ensuring those systems operate efficiently, regularly storing and backing up data, and securing data from unauthorized access. About the Exam Exam 70-764 focuses on skills and knowledge required for database administration. About Microsoft Certification Passing both Exam 70-764 and Exam 70-765 (Provisioning SQL Databases) earns you credit toward an MCSA: SQL 2016 Database Administration certification. See full details at: [microsoft.com/learning](http://microsoft.com/learning)

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.

This book will expand your ability to deliver meaningful, performant solutions to your organization. You'll learn how to use an analytical engine for decision making and business analytics. With the help of this practical guide, you'll also be able to work confidently with data and analytics.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Prepare for Microsoft Exam 70-762, Developing SQL Databases—and help demonstrate your real-world mastery of skills for building and implementing databases across organizations. Designed for database professionals who build and implement databases across organizations and who ensure high levels of data availability, 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: • Design and implement database objects • Implement programmability objects • Manage database concurrency • Optimize database objects and SQL infrastructure This Microsoft Exam Ref: • Organizes its coverage by exam objectives • Features strategic, what-if scenarios to challenge you • Assumes you have working knowledge of Microsoft Windows, Transact-SQL, and relational databases About the Exam Exam 70-762 focuses on skills and knowledge for building and implementing databases across organizations and ensuring high levels of data availability. About Microsoft Certification Passing this exam earns you credit toward a Microsoft Certified Solutions Associate (MCSA) certification that demonstrates your mastery of modern database development. Exam 70-761 (Querying Data with Transact-SQL) is also required for MCSA: SQL 2016 Database

Development. See full details at: [microsoft.com/learning](https://microsoft.com/learning)

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

Book-and-video package gets novices up to speed on Microsoft SQL Server 2012 If you need a practical, hands-on introduction, especially to SQL Server Integration Services (SSIS), this book-and-video package from authority Brian Knight is the perfect solution. Each lesson includes three major components: a description of how each SSIS feature or process works, a tutorial that walks you through the process or technique, and an accompanying video lesson. It's a complete learning package that will give you the confidence you need to start your first SSIS project. Guides novice database administrators and developers who are learning Microsoft SQL Server 2012 and SQL Server Integration Services (SSIS) Provides expert instruction from leading SQL Server authority and author, Brian Knight Includes a book and a video, complete instruction that includes lessons, hands-on tutorials, and video demonstrations by the author Covers the very latest changes and updates in the SQL Server 2012 release Microsoft SQL Server 2012 Integration Services 24-Hour Trainer makes SQL Server 2012 and SSIS much less intimidating. Note: CD-ROM/DVD and other supplementary materials are not included as part of the e-book file, but are available for download after purchase.

A guide to the practical issues and applications in database programming with updated Visual Basic.NET SQL Server Database Programming with Visual Basic.NET offers a guide to the fundamental knowledge and practical techniques for the design and creation of professional database programs that can be used for real-world commercial and industrial applications. The author—a noted expert on the topic—uses the most current version of Visual Basic.NET, Visual Basic.NET 2017 with Visual Studio.NET 2017. In addition, he introduces the updated SQL Server database and Microsoft SQL Server 2017 Express. All sample program projects can be run in the most updated version, Visual Basic.NET 2019 with Visual Studio.NET 2019. Written in an accessible, down-to-earth style, the author explains how to build a sample database using the SQL Server management system and Microsoft SQL Server Management Studio 2018. The latest version of ASP.NET, ASP.NET 4.7, is also discussed to provide the most up-to-date Web database programming technologies. This important book: Offers illustrative practical examples and detailed descriptions to aid in comprehension of the material presented Includes both fundamental and advanced database programming techniques Integrates images into associated database tables using a DevExpress UI tools -WindowsUI Written for graduate and senior undergraduate students studying database implementations and programming courses, SQL Server Database Programming with Visual Basic.NET shows how to develop professional and practical database programs in Visual Basic.NET 2017/Visual Basic.NET 2019.

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](https://microsoft.com/learning)

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. 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.

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 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.

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.

Learn how to combine SQL Server's analytics with Azure's flexibility and hybrid connectivity to achieve industry-leading performance and manageability for your cloud database. Key Features Understand platform availability for SQL Server in Azure Explore the benefits and deployment choices offered by SQL IaaS Get to grips with deploying SQL Server on the Linux development ecosystem Book Description Deploying SQL Server on Azure virtual machines allows you to work on full versions of SQL Server in the cloud without having to maintain on-premises hardware. The book begins by introducing you to the SQL portfolio in Azure and takes you through SQL Server IaaS scenarios, before explaining the factors that you need to consider while choosing an OS for SQL Server in Azure VMs. As you progress through the book, you'll explore different VM options and deployment choices for IaaS and understand platform availability, migration tools, and best practices in Azure. In later chapters, you'll learn how to configure storage to achieve optimized performance. Finally, you'll get to grips with the concept of Azure Hybrid Benefit and find out how you can use it to maximize the value of your existing on-premises SQL Server. By the end of this book, you'll be proficient in administering SQL Server on Microsoft Azure and leveraging the tools required for its deployment. What you will learn Choose an operating system for SQL Server in Azure VMs Use the Azure Management Portal to facilitate the deployment process Verify connectivity and network latency in cloud Configure storage for optimal performance and connectivity Explore various disaster recovery options for SQL Server in Azure Optimize SQL Server on Linux Discover how to back up databases to a URL Who this book is for SQL Server on Azure VMs is for you if you are a developer, data enthusiast, or anyone who wants to migrate SQL Server databases to Azure virtual machines. Basic familiarity with SQL Server and managed identities for Azure resources will be a plus.

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 Radivojević, 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.

"Most T-SQL developers recognize the value of window functions for data analysis calculations. But they can do far more, and recent optimizations make them even more powerful. In T-SQL Window Functions, renowned T-SQL expert Itzik Ben-Gan introduces breakthrough techniques for using them to handle many common T-SQL querying tasks with unprecedented elegance and power. Using extensive code examples, he guides you through window aggregate, ranking, distribution, offset, and ordered set functions. You'll find a detailed section on optimization, plus an extensive collection of business solutions -- including novel techniques available in no other book."--provided by publisher.

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

Identify and fix causes of poor performance. You will learn Query Store, adaptive execution plans, and automated tuning on the Microsoft Azure SQL Database platform. Anyone responsible for writing or creating T-SQL queries will find valuable the insight into bottlenecks, including how to recognize them and eliminate them. This book covers the latest in performance optimization features and techniques and is current with SQL Server 2017. If your queries are not running fast enough and you're tired of phone calls from frustrated users, then this book is the answer to your performance problems. SQL Server 2017 Query Performance Tuning is about more than quick tips and fixes. You'll learn to be proactive in establishing performance baselines using tools such as Performance Monitor and Extended Events. You'll recognize bottlenecks and defuse them before the phone rings. You'll learn some quick solutions too, but emphasis is on designing for performance and getting it right. The goal is to head off trouble before it occurs. What You'll Learn Use Query Store to understand and easily change query performance Recognize and eliminate bottlenecks leading to slow performance Deploy quick fixes when needed, following up with long-term solutions Implement best practices in T-SQL to minimize performance risk Design in the performance that you need through careful query and index design Utilize the latest performance optimization features in SQL Server 2017 Protect query performance during upgrades to the newer versions of SQL Server Who This Book Is For Developers and database administrators with responsibility for application performance in SQL Server environments. Anyone responsible for writing or creating T-SQL queries will find valuable the insight into bottlenecks, including how to recognize them and eliminate them.

This edited book collects state-of-the-art research related to large-scale data analytics that has been accomplished over the last few years. This is among the first books devoted to this important area based on contributions from diverse scientific areas such as databases, data mining, supercomputing, hardware architecture, data visualization, statistics, and privacy. There is increasing need for new approaches and technologies that can analyze and synthesize very large amounts of data, in the order of petabytes, that are generated by massively distributed data sources. This requires new distributed architectures for data analysis. Additionally, the heterogeneity of such sources imposes significant challenges for the efficient analysis of the data under numerous constraints, including consistent data integration, data homogenization and scaling, privacy and security preservation. The authors also broaden reader understanding of emerging real-world applications in domains such as customer behavior modeling, graph mining, telecommunications, cyber-security, and social network analysis, all of which impose extra requirements for large-scale data analysis. Large-Scale Data Analytics is organized in 8 chapters, each providing a survey of an important direction of large-scale data analytics or individual results of the emerging research in the field. The book presents key recent research that will help shape the future of large-scale data analytics, leading the way to the design of new approaches and technologies that can analyze and synthesize very large amounts of heterogeneous data. Students, researchers, professionals and practitioners will find this book an authoritative and comprehensive resource.

Dive deep inside the architecture of SQL Server 2012 Explore the core engine of Microsoft SQL Server 2012--and put that practical knowledge to work. Led by a team of SQL Server experts, you'll learn the skills you need to exploit key architectural features. Go behind the scenes to understand internal operations for creating, expanding, shrinking, and moving databases--whether you're a database developer, architect, or administrator. Discover how to: Dig into SQL Server 2012 architecture and configuration Use the right recovery model and control transaction logging Reduce query execution time through proper index design Track events, from triggers to the Extended Event Engine Examine internal structures with database console commands Transcend row-size limitations with special storage capabilities Choose the right transaction isolation level and concurrency model Take control over query plan caching and reuse

Students who are beginning studies in technology need a strong foundation in the basics before moving on to more advanced technology courses and certification programs. The Microsoft Technology Associate (MTA) is a new and innovative certification track designed to provide a pathway for future success in technology courses and careers. The MTA program curriculum helps

instructors teach and validate fundamental technology knowledge and provides students with a foundation for their careers as well as the confidence they need to succeed in advanced studies. Through the use of MOAC MTA titles you can help ensure your students future success in and out of the classroom. Database Administration Fundamentals covers introductory knowledge and skills including: relational databases; core database concepts; relational database concepts; security requirements for databases and the data stored in them; database objects -- such as tables and views; graphical tools and T-SQL scripts; database queries; and stored procedures.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. The Language of SQL, Second Edition Many SQL texts attempt to serve as an encyclopedic reference on SQL syntax -- an approach that is often counterproductive, because that information is readily available in online references published by the major database vendors. For SQL beginners, it's more important for a book to focus on general concepts and to offer clear explanations and examples of what various SQL statements can accomplish. This is that book. A number of features make The Language of SQL unique among introductory SQL books. First, you will not be required to download software or sit with a computer as you read the text. The intent of this book is to provide examples of SQL usage that can be understood simply by reading. Second, topics are organized in an intuitive and logical sequence. SQL keywords are introduced one at a time, allowing you to grow your understanding as you encounter new terms and concepts. Finally, this book covers the syntax of three widely used databases: Microsoft SQL Server, MySQL, and Oracle. Special "Database Differences" sidebars clearly show you any differences in syntax among these three databases, and instructions are included on how to obtain and install free versions of the databases. This is the only book you need to gain a quick working knowledge of SQL and relational databases.

- Learn How To... Use SQL to retrieve data from relational databases
- Apply functions and calculations to data
- Group and summarize data in a variety of useful ways
- Use complex logic to retrieve only the data you need
- Update data and create new tables
- Design relational databases so that data retrieval is easy and intuitive
- Use spreadsheets to transform your data into meaningful displays
- Retrieve data from multiple tables via joins, subqueries, views, and set logic
- Create, modify, and execute stored procedures
- Install Microsoft SQL Server, MySQL, or Oracle

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.

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.

Demonstrates the database management program's newest features while explaining how to build databases, design tables, create indexes, and query the system

Introducing Microsoft(r) SQL Server(r) 2012 explores the exciting enhancements and new capabilities engineered into SQL Server, ranging from improvements in operation to those in reporting and management. This book is for anyone who has an interest in SQL Server 2012 and wants to understand its capabilities, including database administrators, application developers, and technical decision makers.

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.

This comprehensive introduction to SQL Server begins with an overview of database design basics and the SQL query language along with an in-depth look at SQL Server itself Progresses on to a clear explanation of how to implement fundamental concepts with the new 2008 version of SQL Server Discusses creating and changing tables, managing keys, writing scripts, working with stored procedures, programming with XML, using SQL Server Reporting and Integration Services, and more Features updated and new material, including new examples using Microsoft's AdventureWorks sample database

Unlike other books on Microsoft SQL Server, "Microsoft SQL Server Black Book" includes customizable real-world examples and actual SQL code that readers can use in their own database systems. Special tips and techniques are provided to help Web masters use SQL server to support dynamic Web sites. The CD-ROM features all examples and SQL source code used in the book, plus a wealth of utilities and an

online quick reference.

Fill the gap between planning and doing with SSIS 2014 The 2014 release of Microsoft's SQL Server Integration Services provides enhancements for managing extraction, transformation, and load operations, plus expanded in-memory capabilities, improved disaster recovery, increased scalability, and much more. The increased functionality will streamline your ETL processes and smooth out your workflow, but the catch is that your workflow must change. New tools come with new best practices, and Professional Microsoft SQL Server 2014 Integration Services will keep you ahead of the curve. SQL Server MVP Brian Knight is the most respected name in the business, and your ultimate guide to navigating the changes to use Microsoft SQL Server Integration Services 2014 to your utmost advantage. Implement new best practices for effective use of SSIS Work through tutorials for hands-on learning of complex techniques Read case studies that illustrate the more advanced concepts Learn directly from the foremost authority on SSIS SQL Server Integration Services is a complex tool, but it's the lifeblood of your work. You need to know it inside out, and you must understand the full potential of its capabilities in order to use it effectively. You need to make sure the right architecture is in place. Professional Microsoft SQL Server 2014 Integration Services is your roadmap to understanding SSIS on a fundamental level, and setting yourself up for success.

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.

MCSA GUIDE TO MICROSOFT SQL SERVER 2012 (Exam #70-462) provides a thorough introduction to essential database administration principles and practices to prepare readers for certification and career success. Ideal for formal courses, self-study, or professional reference, this detailed text employs a lab-based approach to help users develop the core knowledge and practical skills they need to master Microsoft SQL Server administration in an enterprise environment and pass Microsoft Certified Solutions Associate Exam 70-462. The text opens with information on the latest version of Microsoft SQL Server, offering step-by-step guidance on selecting an edition and completing initial installation and configuration. Several chapters then explore key topics such as database programming, security, performance tuning, backup and recovery, data integration, and system monitoring. Within each chapter, numerous resources and features reinforce teaching and learning, including learning objectives, summaries of key ideas, hands-on activities, discussion questions, definitions of important terms, and case studies to provide real-world context. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Introducing SQL Server is a fast and easy introduction to SQL Server and the world of relational databases. You'll learn how databases work and how to use the T-SQL language by practicing on one of the most widely-used and powerful database engines in the corporate world: Microsoft SQL Server. Do you quake at the sight of a SELECT statement? Start to shiver when people start talking about tables and rows? Fear not, Introducing SQL Server is here to rescue you. The book focuses on the knowledge and skills needed to begin your journey toward becoming a solid and competent SQL Server professional and database programmer. You'll learn the core concepts of SQL Server, from installing the software to executing and profiling queries. Introducing SQL Server is aimed at SQL Server newcomers as well as at those wanting to improve their database skills. You'll put a comprehensive database together as you work through the book. You will create tables and learn to use constraints; create reusable functions and stored procedures; and even learn how indexes work and what they bring in terms of increased performance. Introducing SQL Server shows you that databases don't need to be difficult. • Teaches you how to build a SQL Server database from scratch • Takes a tutorial-based approach, with each chapter building on the last • Covers what you need to know for common SQL Server development tasks

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

Conquer SQL Server 2017 administration—from the inside out Dive into SQL Server 2017 administration—and really put your SQL Server DBA expertise to work. This supremely organized reference packs hundreds of timesaving solutions, tips, and workarounds—all you need to plan, implement, manage, and secure SQL Server 2017 in any production environment: on-premises, cloud, or hybrid. Four SQL Server experts offer a complete tour of DBA capabilities available in SQL Server 2017 Database Engine, SQL Server Data Tools, SQL Server Management Studio, and via PowerShell. Discover how experts tackle today's essential tasks—and challenge yourself to new levels of mastery. • Install, customize, and use SQL Server 2017's key administration and development tools • Manage memory, storage, clustering, virtualization, and other components • Architect and implement database infrastructure, including IaaS, Azure SQL, and hybrid cloud configurations • Provision SQL Server and Azure SQL databases • Secure SQL Server via encryption, row-level security, and data masking • Safeguard Azure SQL databases using platform threat protection, firewalling, and auditing • Establish SQL Server IaaS network security groups and user-defined routes • Administer SQL

Server user security and permissions • Efficiently design tables using keys, data types, columns, partitioning, and views • Utilize BLOBs and external, temporal, and memory-optimized tables • Master powerful optimization techniques involving concurrency, indexing, parallelism, and execution plans • Plan, deploy, and perform disaster recovery in traditional, cloud, and hybrid environments For Experienced SQL Server Administrators and Other Database Professionals • Your role: Intermediate-to-advanced level SQL Server database administrator, architect, developer, or performance tuning expert • Prerequisites: Basic understanding of database administration procedures

The industry's most complete, useful, and up-to-date guide to SQL Server 2014. You'll find start-to-finish coverage of SQL Server's core database server and management capabilities: all the real-world information, tips, guidelines, and examples you'll need to install, monitor, maintain, and optimize the most complex database environments. The provided examples and sample code provide plenty of hands-on opportunities to learn more about SQL Server and create your own viable solutions. Four leading SQL Server experts present deep practical insights for administering SQL Server, analyzing and optimizing queries, implementing data warehouses, ensuring high availability, tuning performance, and much more. You will benefit from their behind-the-scenes look into SQL Server, showing what goes on behind the various wizards and GUI-based tools. You'll learn how to use the underlying SQL commands to fully unlock the power and capabilities of SQL Server. Writing for all intermediate-to-advanced-level SQL Server professionals, the authors draw on immense production experience with SQL Server. Throughout, they focus on successfully applying SQL Server 2014's most powerful capabilities and its newest tools and features. Detailed information on how to... Understand SQL Server 2014's new features and each edition's capabilities and licensing Install, upgrade to, and configure SQL Server 2014 for better performance and easier management Streamline and automate key administration tasks with Smart Admin Leverage powerful new backup/restore options: flexible backup to URL, Managed Backup to Windows Azure, and encrypted backups Strengthen security with new features for enforcing "least privilege" Improve performance with updateable columnstore indexes, Delayed Durability, and other enhancements Execute queries and business logic more efficiently with memory-optimized tables, buffer pool extension, and natively-compiled stored procedures Control workloads and Disk I/O with the Resource Governor Deploy AlwaysOn Availability Groups and Failover Cluster Instances to achieve enterprise-class availability and disaster recovery Apply new Business Intelligence improvements in Master Data Services, data quality, and Parallel Data Warehouse

With integrated R Services within SQL Server 2017, developers and data scientists can now benefit from the integrated, effective, efficient and more streamlined analytics environment. In this book, you will understand how to leverage the capabilities of R Services in SQL Server 2017. This short yet effective guide will help you get familiar ...

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