

Microsoft Sql Server 2016 A Beginners Guide Sixth Edition

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.

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.

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

Book + Content Update Program SQL Server 2016 High Availability Unleashed provides start-to-finish coverage of SQL Server's powerful high availability (HA) solutions for your traditional on-premise databases, cloud-based databases (Azure or AWS), hybrid databases (on-premise coupled with the cloud), and your emerging Big Data solutions. This complete guide introduces an easy-to-follow, formal HA methodology that has been refined over the past several years and helps you identify the right HA solution for your needs. There is also additional coverage of both disaster recovery and business continuity architectures and considerations. You are provided with step-by-step guides, examples, and sample code to help you set up, manage, and administer these highly available solutions. All examples are based on existing production deployments at major Fortune 500 companies around the globe. This book is for all intermediate-to-advanced SQL Server and Big Data professionals, but is also organized so that the first few chapters are great foundation reading for CIOs, CTOs, and even some tech-savvy CFOs. Learn a formal, high availability methodology for understanding and selecting the right HA solution for your needs

Deep dive into Microsoft Cluster Services Use selective data replication topologies Explore thorough details on AlwaysOn and availability groups Learn about HA options with log shipping and database mirroring/ snapshots Get details on Microsoft Azure for Big Data and Azure SQL Explore business continuity and disaster recovery Learn about on-premise, cloud, and hybrid deployments Provide all types of database needs, including online transaction processing, data warehouse and business intelligence, and Big Data Explore the future of HA and disaster recovery In addition, this book is part of InformIT's exciting Content Update Program, which provides content updates for major technology improvements! As significant updates are made to SQL Server, sections of this book will be updated or new sections will be added to match the updates to the technologies. As updates become available, they will be delivered to you via a free Web Edition of this book, which can be accessed with any Internet connection. To learn more, visit informit.com/cup. How to access the Web Edition: Follow the instructions inside to learn how to register your book to access the FREE Web Edition.

A Detailed Look at Data Processing Extensions

Book + Content Update Program SQL Server 2016 High Availability Unleashed provides start-to-finish coverage of SQL Server's powerful high availability (HA) solutions for your traditional on-premise databases, cloud-based databases (Azure or AWS), hybrid databases (on-premise

coupled with the cloud), and your emerging Big Data solutions. This complete guide introduces an easy-to-follow, formal HA methodology that has been refined over the past several years and helps you identify the right HA solution for your needs. There is also additional coverage of both disaster recovery and business continuity architectures and considerations. You are provided with step-by-step guides, examples, and sample code to help you set up, manage, and administer these highly available solutions. All examples are based on existing production deployments at major Fortune 500 companies around the globe. This book is for all intermediate-to-advanced SQL Server and Big Data professionals, but is also organized so that the first few chapters are great foundation reading for CIOs, CTOs, and even some tech-savvy CFOs. Learn a formal, high availability methodology for understanding and selecting the right HA solution for your needs Deep dive into Microsoft Cluster Services Use selective data replication topologies Explore thorough details on AlwaysOn and availability groups Learn about HA options with log shipping and database mirroring/ snapshots Get details on Microsoft Azure for Big Data and Azure SQL Explore business continuity and disaster recovery Learn about on-premise, cloud, and hybrid deployments Provide all types of database needs, including online transaction processing, data warehouse and business intelligence, and Big Data Explore the future of HA and disaster recovery In addition, this book is part of InformIT's exciting Content Update Program, which provides content updates for major technology improvements! As significant updates are made to SQL Server, sections of this book will be updated or new sections will be added to match the updates to the technologies. As updates become available, they will be delivered to you via a free Web Edition of this book, which can be accessed with any Internet connection. To learn more, visit informit.com/cup. How to access the Web Edition: Follow the instructions inside to learn how to register your book to access the FREE Web Edition.

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

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.

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.

Harness the powerful new SQL Server 2012 Microsoft SQL Server 2012 is the most significant update to this product since 2005, and it may change how database administrators and developers perform many aspects of their jobs. If you're a database administrator or developer, Microsoft SQL Server 2012 Bible teaches you everything you need to take full advantage of this major release. This detailed guide not only covers all the new features of SQL Server 2012, it also shows you step by step how to develop top-notch SQL Server databases and new data connections and keep your databases performing at peak. The book is crammed with specific examples, sample code, and a host of tips, workarounds, and best practices. In addition, downloadable code is available from the book's companion web site, which you can use to jumpstart your own projects. Serves as an authoritative guide to Microsoft's SQL Server 2012 for database administrators and developers Covers all the software's new features and capabilities, including SQL Azure for cloud computing, enhancements to client connectivity, and new functionality that ensures high-availability of mission-critical applications Explains major new changes to the SQL Server Business Intelligence tools, such as Integration, Reporting, and Analysis Services Demonstrates tasks both graphically and in SQL code to enhance your learning Provides source code from the companion web site, which you can use as a basis for your own projects Explores tips, smart workarounds, and best practices to help you on the job Get thoroughly up to speed on SQL Server 2012 with Microsoft SQL Server 2012 Bible.

Microsoft SQL Server 2016: A Beginner's Guide, Sixth Edition McGraw Hill Professional 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

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

Create interactive cross-platform reports and dashboards using SQL Server 2016 Reporting Services About This Book Get up to speed with the newly-introduced enhancements and the more advanced query and reporting features Easily access your important data by creating visually appealing dashboards in the Power BI practical recipe Create cross-browser and cross-platform reports using SQL Server 2016 Reporting Services Who This Book Is For This book is for software professionals who develop and implement reporting solutions using Microsoft SQL Server. It is especially relevant for professionals who are software engineers, software architects, DW/BI engineers, and DW/BI architects who perform simple to complex report authoring implementations. This book is also suitable for those who develop software solutions that integrate reporting solutions and are keen to learn about Microsoft SQL Server 2016's features and capabilities. What You Will Learn Key capabilities, architecture, and components of Reporting Services New features that have been added to Reporting Services Design the architecture for reporting solutions Design the architecture for BI solutions Implement reporting solutions using Reporting Services Improve the performance, availability, and scalability of the reporting solution Enhance reporting solutions with custom programming and improved security In Detail Microsoft SQL Server 2016 Reporting Services comes with many new features. It offers different types of reporting such as Production, Ad-hoc, Dashboard, Mash-up, and Analytical. SQL Server 2016 also has a surfeit of new features including Mobile Reporting, and Power BI integration. This book contains recipes that explore the new and advanced features added to SQL Server 2016. The first few chapters cover recipes on configuring components and how to explore these new features. You'll learn to build your own reporting solution with data tools and report builder, along with learning techniques to create visually appealing reports. This book also has recipes for enhanced mobile reporting solutions, accessing these solutions effectively, and delivering interactive business intelligence solutions. Towards the end of the book, you'll get to grips with running reporting services in SharePoint integrated mode and be able to administer, monitor, and secure your reporting solution. This book covers about the new offerings

of Microsoft SQL Server 2016 Reporting Services in comprehensive detail and uses examples of real-world problem-solving business scenarios. Style and approach This comprehensive cookbook follows a problem-solution approach to help you overcome any obstacle when creating interactive, visually-appealing reports using SQL Server 2016 Reporting Services. Each recipe focuses on a specific task and is written in a clear, solution-focused style.

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

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.

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

Implement a Robust BI Solution with Microsoft SQL Server 2012 Equip your organization for informed, timely decision making using the expert tips and best practices in this practical guide. Delivering Business Intelligence with Microsoft SQL Server 2012, Third Edition explains how to effectively develop, customize, and distribute meaningful information to users enterprise-wide. Learn how to build data marts and create BI Semantic Models, work with the MDX and DAX languages, and share insights using Microsoft client tools. Data mining and forecasting are also covered in this comprehensive resource. Understand the goals and components of successful BI Design, deploy, and manage data marts and OLAP cubes Load and cleanse data with SQL Server Integration Services Manipulate and analyze data using MDX and DAX scripts and queries Work with SQL Server Analysis Services and the BI Semantic Model Author interactive reports using SQL Server Data Tools Create KPIs and digital dashboards Use data mining to identify patterns, correlations, and clusters Implement time-based analytics Embed BI reports in custom applications using ADOMD.NET

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 memoryoptimized 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

Over 70 practical recipes to analyze multi-dimensional data in SQL Server 2016 Analysis Services cubes About This Book Updated for SQL Server 2016, this book helps you take advantage of the new MDX commands and the new features introduced in SSAS Perform time-related, context-aware, and business related-calculations with ease to enrich your Business Intelligence solutions Collection of techniques to write flexible and high performing MDX queries in SSAS with carefully structured examples Who This Book Is For This book is for anyone who has been involved in working with multidimensional data. If you are a multidimensional cube developer, a multidimensional database administrator, or a report developer who writes MDX queries to access multidimensional cube, this book will help you. If you are a power cube user or an experienced business analyst, you will also find this book invaluable in your data analysis. This book is for you are interested in doing more data analysis so that the management can make timely and accurate business decisions. What You Will Learn Grasp the fundamental MDX concepts, features, and techniques Work with sets Work with Time dimension and create time-aware calculations Make analytical reports compact, concise, and efficient Navigate cubes Master MDX for reporting with Reporting Services (new) Perform business analytics Design efficient cubes and efficient MDX queries Create metadata-driven calculations (new) Capture MDX queries and many other techniques In Detail If you're often faced with MDX challenges, this is a book for you. It will teach you how to solve various real-world business requirements using MDX queries and calculations. Examples in the book introduce an idea or a problem and then guide you through the process of implementing the solution in a step-by-step manner, inform you about the best practices and offer a deep knowledge in terms of how the solution works. Recipes are organized by chapters, each covering a single topic. They start slowly and logically progress to more advanced techniques. In case of complexity, things are broken down. Instead of one, there are series of recipes built one on top of another. This way you are able to see intermediate results and debug potential errors faster. Finally, the cookbook format is here to help you quickly identify the topic of interest and in it a wide range of practical solutions, that is – MDX recipes for your success. Style and approach This book is written in a cookbook format, where you can browse through and look for solutions to a particular problem in one place. Each recipe is short, to the point and grouped by relevancy. All the recipes are sequenced in a logical progression; you will be able to build up your understanding of the topic incrementally.

Provides information on designing and managing databases using Microsoft SQL Server 2012.

Leverage powerful features of the SQL Server and watch your infrastructure transform into a high-performing, reliable network of systems. Key Features Explore more than 20 real-world use cases to understand SQL Server features Get to grips with the SQL Server Always On technology Learn how to choose HA and DR topologies for your system Book Description Professional SQL Server High Availability and Disaster Recovery explains the high availability and disaster recovery technologies available in SQL Server: Replication, AlwaysOn, and Log Shipping. You'll learn what they are, how

to monitor them, and how to troubleshoot any related problems. You will be introduced to the availability groups of AlwaysOn and learn how to configure them to extend your database mirroring. Through this book, you will be able to explore the technical implementations of high availability and disaster recovery technologies that you can use when you create a highly available infrastructure, including hybrid topologies. Note that this course does not cover SQL Server Failover Cluster Installation with shared storage. By the end of the book, you'll be equipped with all that you need to know to develop robust and high performance infrastructure. What you will learn Configure and troubleshoot Replication, AlwaysOn, and Log Shipping Study the best practices to implement HA and DR solutions Design HA and DR topologies for the SQL Server and study how to choose a topology for your environment Use T-SQL to configure replication, AlwaysOn, and log shipping Migrate from On-Premise SQL Server to Azure SQL Database Manage and maintain AlwaysOn availability groups for extended database mirroring Who this book is for Professional SQL Server High Availability and Disaster Recovery is for you if you are a database administrator or database developer who wants to improve the performance of your production environment. Prior experience of working with SQL Server will help you get the most out of this book. 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.

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

Expert tabular modeling techniques for building and deploying cutting-edge business analytical reporting solutions About This Book Build and deploy Tabular Model projects from relational data sources Leverage DAX and create high-performing calculated fields and measures Create ad-hoc reports based on a Tabular Model solution Useful tips to monitor and optimize your tabular solutions Who This Book Is For This book is for SQL BI professionals and Architects who want to exploit the full power of the new Tabular models in Analysis Services. Some knowledge of previous versions of Analysis services would be helpful but is not essential. What You Will Learn Learn all about Tabular services mode and how it speeds up development Build solutions using sample datasets Explore built-in actions and transitions in SSAS 2016 Implement row-column, and role-based security in a Tabular Data model Realize the benefits of in-memory and DirectQuery deployment modes Get up to date with the new features added to SQL Server 2016 Analysis Services Optimize Data Models and Relationships Usage In Detail SQL Server Analysis Service (SSAS) has been widely used across multiple businesses to build smart online analytical reporting solutions. It includes two different types of modeling for analysis services: Tabular and Multi Dimensional. This book covers Tabular modeling, which uses tables and relationships with a fast in-memory engine to provide state of the art compression algorithms and query performance. The book begins by quickly taking you through the concepts required to model tabular data and set up the necessary tools and services. As you learn to create tabular models using tools such as Excel and Power View, you'll be shown various strategies to deploy your model on the server and choose a query mode (In-memory or DirectQuery) that best suits your reporting needs. You'll also learn how to implement key and newly introduced DAX functions to create calculated columns and measures for your model data. Last but not least, you'll be shown techniques that will help you administer and secure your BI implementation along with some widely used tips and tricks to optimize your reporting solution. By the end of this book, you'll have gained hands-on experience with the powerful new features that have been added to Tabular models in SSAS 2016 and you'll be able to improve user satisfaction with faster reports and analytical queries. Style and approach This book takes a practical, recipe-based approach where each recipe lists the steps to address or implement a solution. You will be provided with several approaches to creating a business intelligence semantic model using analysis services. Over 60 recipes to achieve a robust and advanced backup and recovery solution leveraging SCDPM Key Features Adapt to the modern data center design challenges and improve storage efficiency Effective recipes to help you create your own robust architectural designs Solve data protection and recovery problems in your organization Book Description System Center Data Protection Manager (SCDPM) is a robust enterprise backup and recovery system that contributes to your BCDR strategy by facilitating the backup and recovery of enterprise data. With an increase in data recovery and protection problems faced in organizations, it has become important to keep data safe and recoverable. This book contains recipes that will help you upgrade to SCDPM and it covers the advanced features and functionality of SCDPM. This

book starts by helping you install SCDPM and then moves on to post-installation and management tasks. You will come across a lot of useful recipes that will help you recover your VMware and Hyper-V VMs. It will also walk you through tips for monitoring SCDPM in different scenarios. Next, the book will also offer insights into protecting windows workloads followed by best practices on SCDPM. You will also learn to back up your Azure Stack Infrastructure using Azure Backup. You will also learn about recovering data from backup and implementing disaster recovery. Finally, the book will show you how to configure the protection groups to enable online protection and troubleshoot Microsoft Azure Backup Agent. What you will learn

- Install and prepare SQL Server for the SCDPM database
- Reduce backup storage with SCDPM and data deduplication
- Learn about the prerequisites for supported Hyper-V Server protection
- Integrate SCDPM with other System Center products to build optimal services
- Protect and restore the SCDPM database
- Protect your data center by integrating SCDPM with Azure Backup
- Manually create online recovery points and recover production data from Azure
- Protect and learn about the requirements to recover Azure Stack with SCDPM

Who this book is for
If you are an SCDPM administrator, this book will help you verify your knowledge and provide you with everything you need to know about the new release of System Center Data Protection Manager.

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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

Distribute Actionable, Timely BI with Microsoft® SQL Server® 2016 and Power BI Drive better, faster, more informed decision making across your organization using the expert tips and best practices featured in this hands-on guide. Delivering Business Intelligence with Microsoft SQL Server 2016, Fourth Edition, shows, step-by-step, how to distribute high-performance, custom analytics to users enterprise-wide. Discover how to build BI Semantic Models, create data marts and OLAP cubes, write MDX and DAX scripts, and share insights using Microsoft client tools. The book includes coverage of self-service business intelligence with Power BI.

- Understand the goals and components of successful BI
- Build data marts, OLAP cubes, and Tabular models
- Load and cleanse data with SQL Server Integration Services
- Manipulate and analyze data using MDX and DAX scripts and queries
- Work with SQL Server Analysis Services and the BI Semantic Model
- Author interactive reports using SQL Server Data Tools
- Create KPIs and digital dashboards
- Implement time-based analytics
- Embed data model content in custom applications using ADOMD.NET
- Use Power BI to gather, model, and visualize data in a self-service environment

This text does not include not include a MOAC Labs Online access code. This 70-410

Installing and Configuring Windows Server 2012 textbook prepares certification students for the first of a series of three exams which validate the skills and knowledge necessary to implement a core Windows Server 2012 Infrastructure into an existing enterprise environment. This Microsoft Official Academic Course is mapped to the 70-410 Installing and Configuring Windows Server 2012 exam objectives. This textbook focuses on real skills for real jobs and prepares students to prove mastery of core services such as Active Directory and networking services. In addition, this book also covers such valuable skills as:

- Managing Active Directory Domain Services Objects
- Automating Active Directory Domain Services Administration
- Implementing Local Storage
- Implementing File and Print Services
- Implementing Group Policy
- Implementing Server Virtualization with Hyper-V

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.

Part of the "Microsoft Azure Essentials" series, this ebook helps SQL Server database users understand Microsoft's offering for SQL Server in Azure. Learn how SQL Server in Azure is similar to SQL Server in an on-premises environment, and how they are different. The author, a content lead for Azure.com, walks you through the steps of getting started with SQL Server in an Azure virtual machine and with Azure SQL Database. Follow the numerous screenshots to create a trial subscription, create SQL Server in an Azure virtual machine, create an Azure SQL Database, migrate an on-premises database to each Azure environment, create users, back up and restore data, and archive data.

If you need to deploy, manage, or secure Microsoft SQL Server 2008, this is the complete, fast-paced, task-based reference you've been searching for. Authored by a world-class expert on SQL Server in the enterprise, this book goes far beyond the basics, taking on the complex tasks that DBAs need to make the

most of Microsoft's flagship database platform. SQL Server MVP, Ross Mistry presents proven techniques for SQL Server 2008 installation, upgrades, backup/restore, data transfer, indexing, high availability, security, and much more. He draws on extensive testing in high-profile production environments to offer step-by-step solutions and powerful tips you won't find anywhere else. Every chapter begins with a section identifying SQL Server 2008's most significant new improvements, and concludes with a convenient summary of best practices. Each chapter also outlines the benefits of leveraging Windows Server 2008. Understand how to: Master DBA tips, tricks, and best practices proven in actual enterprise environments Install, upgrade or transition to SQL Server 2008. Harden and Secure an implementation. Encrypt SQL Server from an end-to-end perspective. Implement high availability—and leverage SQL Server 2008's major improvements to failover clustering and database mirroring Save time with SQL Server 2008's new policy-based management tools Performance tune and troubleshoot a SQL Server 2008 environment. Optimize application performance and manage workloads with the powerful new Resource Governor Implement Performance Studio, maintenance plans, Transparent Data Encryption and much more... Bonus Content: The book is based on Windows Server 2008 Step by step instructions of how to implement a failover cluster on Windows Server 2008 SQL Server PowerShell Administration Tasks Consolidate and virtualize SQL Server with Hyper-V Step by step instructions on how to install Hyper-V Proactively Monitor SQL Server with Operations Manager Install Windows Server 2008 certificates to encrypt SQL Server data Contributing Writers include: Hilary Cotter – SQL Server MVP John Welch – SQL Server MVP Marco Shaw – PowerShell MVP Maciej Pilecki – SQL Server MVP Shirmattie Seenarine – Technical Writer Teaches solution architects, designers, and developers how to use Microsoft's reporting platform to create reporting and business intelligence (BI) solutions Updated with new information about holistic BI solutions, comprehensive OLAP/Analysis Services reporting, and complete production deployment scenarios Includes programming examples focused on specific, scenario-based solutions Explains reporting services architecture and business intelligence, teaches the fundamentals of designing reports through the use of careful planning considerations, and covers advanced report design and filtering techniques

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.

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

This book is an introduction and deep-dive into the many uses of dynamic SQL in Microsoft SQL Server. Dynamic SQL is key to large-scale searching based upon user-entered criteria. It's also useful in generating value-lists, in dynamic pivoting of data for business intelligence reporting, and for customizing database objects and querying their structure. Executing dynamic SQL is at the heart of applications such as business intelligence dashboards that need to be fluid and respond instantly to changing user needs as those users explore their data and view the results. Yet dynamic SQL is feared by many due to concerns over SQL injection attacks. Reading *Dynamic SQL: Applications, Performance, and Security* is your opportunity to learn and master an often misunderstood feature, including security and SQL injection. All aspects of security relevant to dynamic SQL are discussed in this book. You will learn many ways to save time and develop code more efficiently, and you will practice directly with security scenarios that threaten companies around the world every day. *Dynamic SQL: Applications, Performance, and Security* helps you bring the productivity and user-satisfaction of flexible and responsive applications to your organization safely and securely. Your organization's increased ability to respond to rapidly changing business scenarios will build competitive advantage in an increasingly crowded and competitive global marketplace. Discusses many applications of dynamic SQL, both simple and complex. Explains each example with demos that can be run at home and on your laptop. Helps you to identify when dynamic SQL can offer superior performance. Pays attention to security and best practices to ensure safety of your data. What You Will Learn Build flexible applications that respond fast to changing business needs. Take advantage of unconventional but productive uses of dynamic SQL. Protect your data from attack through best-practices in your implementations. Know about SQL Injection and be confident in your defenses against it Run at high performance by optimizing dynamic SQL in your applications. Troubleshoot and debug dynamic SQL to ensure correct results. Who This Book is For *Dynamic SQL: Applications, Performance, and Security* is for developers and database administrators looking to hone and build their T-SQL coding skills. The book is ideal for advanced users wanting to plumb the depths of application flexibility and troubleshoot performance issues involving

dynamic SQL. The book is also ideal for beginners wanting to learn what dynamic SQL is about and how it can help them deliver competitive advantage to their organizations.

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

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