

Studio D B2

Stored procedures can provide major benefits in the areas of application performance, code re-use, security, and integrity. DB2® has offered ever-improving support for developing and operating stored procedures. This IBM® Redpaper™ publication is devoted to tools that can be used for accelerating the development and debugging process, in particular to the stored procedure support provided by the latest and fastest evolving IBM product: Data Studio. We discuss topics related to handling stored procedures across different platforms. We concentrate on how to use tools for deployment of stored procedures on z/OS®, but most considerations apply to the other members of the DB2 family. This paper is a major update of Part 6, "Cool tools for an easier life," of the IBM Redbooks® publication DB2 9 for z/OS Stored Procedures: Through the CALL and Beyond, SG24-7604. IBM® DB2® Version 10.1 for z/OS® (DB2 10 for z/OS or just DB2 10 throughout this book) is the fourteenth release of DB2 for MVSTM. It brings improved performance and synergy with the System z® hardware and more opportunities to drive business value in the following areas: Cost savings and compliance through optimized innovations DB2 10 delivers value in this area by achieving up to 10% CPU savings for traditional workloads and up to 20% CPU savings for nontraditional workloads, depending on the environments. Synergy with other IBM System z platform components reduces CPU use by taking advantage of the latest processor improvements and z/OS enhancements. Streamline security and regulatory compliance through the separation of roles between security and data administrators, column level security access, and added auditing capabilities. Business insight innovations Productivity improvements are provided by new functions available for pureXML®, data warehousing, and traditional online TP applications Enhanced support for key business partners that allow you to get more from your data in critical business disciplines like ERP Bitemporal support for applications that need to correlate the validity of data with time. Business resiliency innovations Database on demand capabilities to ensure that information design can be changed dynamically, often without database outages DB2 operations and utility improvements enhancing performance, usability, and availability by exploiting disk storage technology. The DB2 10 environment is available either for brand new installations of DB2, or for migrations from DB2 9 for z/OS or from DB2 UDB for z/OS Version 8 subsystems. This IBM Redbooks® publication introduces the enhancements made available with DB2 10 for z/OS. The contents help you understand the new functions and performance enhancements, start planning for exploiting the key new capabilities, and justify the investment in installing or migrating or skip migrating to DB2 10. DB2 Workload Manager (WLM) introduces a significant evolution in the capabilities available to database administrators for controlling and monitoring executing work within DB2. This new WLM technology is directly incorporated into the DB2 engine infrastructure to allow handling higher volumes with minimal overhead. It is also enabled for tighter integration with external workload management products, such as those provided by AIX WLM. This IBM Redbooks publication discusses the features and functions of DB2 Workload Manager for Linux, UNIX, and Windows. It describes DB2 WLM architecture, components, and WLM-specific SQL statements. It demonstrates installation, WLM methodology for customizing the DB2 WLM environment, new workload monitoring table functions, event monitors, and stored procedures. It provides examples and scenarios using DB2 WLM to manage database activities in DSS and OLTP mixed database systems, so you learn about these advanced workload management capabilities and see how they can be used to explicitly allocate CPU priority, detect and prevent "runaway" queries, and closely monitor database activity in many different ways. Using Data Warehouse Edition Design Studio and DB2 Performance Expert with DB2 WLM is covered. Lastly, the primary differences between Workload Manager and Query Patroller are explained, along with how they interact in DB2 9.5.

DB2® 10 for z/OS can reduce the total DB2 CPU demand from 5-20%, compared to DB2 9, when you take advantage of all the enhancements. Many CPU reductions are built in directly to DB2, requiring no application changes. Some enhancements are implemented through normal DB2 activities through rebinding, restructuring database definitions, improving applications, and utility processing. The CPU demand reduction features have the potential to provide significant total cost of ownership savings based on the application mix and transaction types. Improvements in optimization reduce costs by processing SQL automatically with more efficient data access paths. Improvements through a range-list index scan access method, list prefetch for IN-list, more parallelism for select and index insert processing, better work file usage, better record identifier (RID) pool overflow management, improved sequential detection, faster log I/O, access path certainty evaluation for static SQL, and improved distributed data facility (DDF) transaction flow all provide more efficiency without changes to applications. These enhancements can reduce total CPU enterprise costs because of improved efficiency in the DB2 10 for z/OS. DB2 10 includes numerous performance enhancements for Large Objects (LOBs) that save disk space for small LOBs and that provide dramatically better performance for LOB retrieval, inserts, load, and import/export using DB2 utilities. DB210 can also more effectively REORG partitions that contain LOBs. This IBM Redbooks® publication® provides an overview of the performance impact of DB2 10 for z/OS discussing the overall performance and possible impacts when moving from version to version. We include performance measurements that were made in the laboratory and provide some estimates. Keep in mind that your results are likely to vary, as the conditions and work will differ. In this book, we assume that you are somewhat familiar with DB2 10 for z/OS. See DB2 10 for z/OS Technical Overview, SG24-7892-00, for an introduction to the new functions.

IBM® DB2® with BLU Acceleration is a revolutionary technology that is delivered in DB2 for Linux, UNIX, and Windows Release 10.5. BLU Acceleration delivers breakthrough performance improvements for analytic queries by using dynamic in-memory columnar technologies. Different from other vendor solutions, BLU Acceleration allows the unified computing of OLTP and analytics data inside a single database, therefore, removing barriers and accelerating results for users. With observed hundredfold improvement in query response time, BLU Acceleration provides a simple, fast, and easy-to-use solution for the needs of today's organizations; quick access to business answers can be used to gain a competitive edge, lower costs, and more. This IBM Redbooks® publication introduces the concepts of DB2 with BLU Acceleration. It discusses the steps to move from a relational database to using BLU Acceleration, optimizing BLU usage, and deploying BLU into existing analytic solutions today, with an example of IBM Cognos®. This book also describes integration of DB2 with BLU Acceleration into SAP Business Warehouse (SAP BW) and SAP's near-line storage solution on DB2. This publication is intended to be helpful to a wide-ranging audience, including those readers who want to understand the technologies and those who have planning, deployment, and support responsibilities.

Chapter 1: Introduction -- Chapter 2: Infrastructure as a Service -- Chapter 3: Platform as a Service -- Chapter 4: Application as a Service -- Chapter 5: Paradigms for Developing Cloud Applications -- Chapter 6: Addressing the Cloud Challenges -- Chapter 7:

Security -- Chapter 8: Managing the Cloud Infrastructure -- Chapter 9: Related Technologies -- Chapter 10: Future trends and Research Directions.

Switching database vendors is often considered an exhausting challenge for database administrators and developers. Complexity, total cost, and the risk of downtime are often the reasons that restrain IT decision makers from starting the migration project. The primary goal of this book is to show that, with the proper planning and guidance, converting from MySQL to IBM® DB2® is not only feasible but straightforward. If you picked up this book, you are most likely considering converting to DB2 and are probably aware of several of the advantages of converting to DB2 data server. In this IBM Redbooks® publication, we discuss in detail how you can take advantage of this industry leading database server. This book is an informative guide that describes how to convert the database system from MySQL™ 5.1 to DB2® V9.7 on Linux® and the steps that are involved in enabling the applications to use DB2 instead of MySQL. This guide also presents the best practices in conversion strategy and planning, conversion tools, porting steps, and practical conversion examples. It is intended for technical staff that is involved in a MySQL to DB2 conversion project. Structured Query Language (SQL) procedures, triggers, and functions, which are also known as user-defined functions (UDFs), are the key database features for developing robust and distributed applications. IBM® DB2® for i supported these features for many years, and they are enhanced in IBM i versions 6.1, 7.1, and 7.2. DB2 for i refers to the IBM DB2 family member and relational database management system that is integrated within the IBM Power operating system that is known as IBM i. This IBM Redbooks® publication includes several of the announced features for SQL procedures, triggers, and functions in IBM i versions 6.1, 7.1, and 7.2. This book includes suggestions, guidelines, and practical examples to develop DB2 for i SQL procedures, triggers, and functions effectively. This book covers the following topics: Introduction to the SQL/Persistent Stored Modules (PSM) language, which is used in SQL procedures, triggers, and functions SQL procedures SQL triggers SQL functions This book is for IBM i database engineers and data-centric developers who strive to provide flexible, extensible, agile, and scalable database solutions that meet business requirements in a timely manner. Before you read this book, you need to know about relational database technology and the application development environment on the IBM Power Systems™ with the IBM i operating system.

A guide to IBM's "e-business on demand" describes the five key IBM software families, IBM's software solutions for industries, software types needed for an on-demand business, and live product demonstrations on the enclosed CD-ROM.

You have installed and performed the basic customization of IBM® Tivoli® Storage Productivity Center. You have collected performance data and generated reports. Now it's time to learn the best ways to use the software to manage your storage infrastructure. This IBM Redbooks® publication shows the best way to set up the software, based on your storage environment, and then how to use it to manage your infrastructure. It includes experiences from IBM clients and staff and covers the following topics: Architectural design techniques (sizing your environment, single versus multiple installations, physical versus virtual servers, deployment in a large, existing storage infrastructure) Database and server considerations (database backup and restoration methods and scripts, using IBM Data Studio Client for database administration, database placement and relocation, repository sizing and tuning, moving and migrating the server) Alerting, monitoring and reporting (monitoring thresholds and alerts, performance management and analysis of reports, real-time performance monitoring for IBM SAN Volume Controller) Security considerations (Tivoli Storage Productivity Center internal user IDs, user authentication configuration methods, how and why to set up and change passwords, configuring, querying, and testing LDAP and Microsoft Active Directory) Health checks (server health and logs, health and recoverability of IBM DB2® databases, using the Database Maintenance tool) Data management techniques (how to spot unusual growth incidents, scripted actions for Tivoli Storage manager and hierarchical storage management) This book is for storage administrators who are responsible for the performance and growth of the IT storage infrastructure. This publication was updated in January 2017 to reflect the latest support information.

DB2 Version 8" represents a significant release in DB2Us history. This book is organized into topics such as Performance Enhancements, Manageability Enhancements, etc. Each section presents the new features in Version 8, and gives details about the new features, gotchas, tips, and tricks.

DB2 Universal Database v8 builds on the world's #1 enterprise database to simplify anytime/anywhere information integration, streamline management, automate resource tuning, enhance business intelligence, and maximize performance, scalability, and reliability. Now, IBM offers complete, start-to-finish coverage of DB2 Universal Database v8 administration and development for UNIX, Linux, and Windows platforms... "and authoritative preparation for IBM's newest DB2 certification exam." This definitive reference and self-study guide covers every aspect of deploying and managing DB2 Universal Database v8, including best practices for DB2 database design and development; day-to-day administration and backup; expert techniques for deploying networked, Internet-centered, and XML-based database applications; migrating to DB2 UDB v8; and much more. You'll also find an unparalleled collection of IBM tips and tricks for maximizing the performance, availability, and value of any database system. Coverage includes: Manageability and serviceability enhancements, including new tools for storagemanagement and monitoring database health Performance improvement with multidimensional clustering, enhanced prefetching, threading of Java UDFs and stored procedures, and materialized query tables New Setup wizards, configuration assistants, GUI tools, and DB2 Administration Server (DAS) improvements Availability and scalability enhancements New DB2 v8 Replication and Data Warehouse Centers Major improvements for developers, including SQL, XML, JDBC, and CLI enhancements Whether you're a DBA, a developer, a DB2 certification candidate, or all three, "DB2 Universal Database v8 for Linux, UNIX, and Windows Database Administration Certification Guide" is the one book you can't afford to be without. Straight from IBM, the ultimate guide to running DB2 v8 and preparing for IBM's latest DB2 certification exam! In-depth coverage of DB2 v8 database administration and development Covers new DB2 v8 enhancements in manageability, serviceability, reliability,

availability, and performance Contains in-depth coverage of new DB2 v8 tools, including the Replication, Data Warehouse, and Development Centers Presents expert tips and best practices from IBM's own DB2 customer support organization About the CD The CD-ROM included with this book contains a complete trial version of DB2 UDB V8 Personal Edition, plus the DB2DEMO program to help explore the many features of DB2.

IBM® DB2® Tools for z/OS® support and take advantage of the latest versions of DB2 for z/OS. These tools are integral for the administration of the DB2 for z/OS environment and for optimization of data performance. In addition, the IBM portfolio addresses additional client requirements in the areas of data governance and version upgrade acceleration. Underlying the operation of any database management system are the utilities. With the number of database objects growing exponentially, managing utility jobs, meeting service level agreements (SLAs), and ensuring recoverability can be overwhelming. IBM offers DB2 Tools solution packs that assist in the DB2 utilities management process. Solution packs combine several products into a single consolidated solution providing everything necessary to ensure the execution of a set of database administration functions. The goals are to reduce the operational complexity and reduce cost. The objective of this IBM Redbooks® publication is to document the added value in terms of productivity and performance for database administrators when using the IBM DB2 Utilities Solution Pack and the IBM DB2 Fast Copy Solution Pack. We show the functions of the tools provided by the solution packs as used in real-life scenarios and adopting utilities best practices.

The IBM® DB2® Analytics Accelerator Version 3.1 for IBM z/OS® (simply called Accelerator in this book) is a union of the IBM System z® quality of service and IBM Netezza® technology to accelerate complex queries in a DB2 for z/OS highly secure and available environment. Superior performance and scalability with rapid appliance deployment provide an ideal solution for complex analysis. In this IBM Redbooks® publication, we provide technical decision-makers with a broad understanding of the benefits of Version 3.1 of the Accelerator's major new functions. We describe their installation and the advantages to existing analytical processes as measured in our test environment. We also describe the IBM zEnterprise® Analytics System 9700, a hybrid System z solution offering that is surrounded by a complete set of optional packs to enable customers to custom tailor the system to their unique needs..

This IBM® Redbooks® publication describes IBM DB2® SQL compatibility features. The latest version of DB2 includes extensive native support for the PL/SQL procedural language, new data types, scalar functions, improved concurrency, built-in packages, OCI, SQLPlus, and more. These features can help with developing applications that run on both DB2 and Oracle and can help simplify the process of moving from Oracle to DB2. In addition, IBM now provides tools to simplify the enablement process, such as the highly scalable IBM Data Movement Tool for moving schema and data into DB2, and an Editor and Profiler for PL/SQL provided by the IBM Data Studio tool suite. This Oracle to DB2 migration guide describes new technology, preferred practices for moving to DB2, and common scenarios that can help you as you move from Oracle to DB2. This book is intended for IT architects and developers who are converting from Oracle to DB2. DB2 compatibility with Oracle is provided through native support. The new capabilities in DB2 that provide compatibility are implemented at the lowest and most intimate levels of the database kernel, as though they were originally engineered for DB2. means that the DB2 implementation is done without the aid of an emulation layer. This intimacy leads to the scalable implementation that DB2 offers, providing identical performance between DB2 compatibility features and DB2 other language elements. For example, DB2 runs SQL PL at the same performance as PL/SQL implementations of the same function.

Building on the business intelligence (BI) framework and capabilities that are outlined in InfoSphere Warehouse: A Robust Infrastructure for Business Intelligence, SG24-7813, this IBM® Redbooks® publication focuses on the new business insight challenges that have arisen in the last few years and the new technologies in IBM DB2® 10 for Linux, UNIX, and Windows that provide powerful analytic capabilities to meet those challenges. This book is organized in to two parts. The first part provides an overview of data warehouse infrastructure and DB2 Warehouse, and outlines the planning and design process for building your data warehouse. The second part covers the major technologies that are available in DB2 10 for Linux, UNIX, and Windows. We focus on functions that help you get the most value and performance from your data warehouse. These technologies include database partitioning, intrapartition parallelism, compression, multidimensional clustering, range (table) partitioning, data movement utilities, database monitoring interfaces, infrastructures for high availability, DB2 workload management, data mining, and relational OLAP capabilities. A chapter on BLU Acceleration gives you all of the details about this exciting DB2 10.5 innovation that simplifies and speeds up reporting and analytics. Easy to set up and self-optimizing, BLU Acceleration eliminates the need for indexes, aggregates, or time-consuming database tuning to achieve top performance and storage efficiency. No SQL or schema changes are required to take advantage of this breakthrough technology. This book is primarily intended for use by IBM employees, IBM clients, and IBM Business Partners.

DB2 pureXML Cookbook Master the Power of the IBM Hybrid Data Server Hands-On Solutions and Best Practices for Developing and Managing XML Database Applications with DB2 More and more database developers and DBAs are being asked to develop applications and manage databases that involve XML data. Many are utilizing the highly praised DB2 pureXML technology from IBM. In the DB2 pureXML Cookbook, two leading experts from IBM offer the practical solutions and proven code samples that database professionals need to build better XML solutions faster. Organized by task, this book is packed with more than 700 easy-to-adapt "recipe-style" examples covering the entire application lifecycle—from planning and design through coding, optimization, and troubleshooting. This extraordinary library of recipes includes more than 250 XQuery and SQL/XML queries. With the authors' hands-on guidance, you'll learn how to combine pureXML "ingredients" to efficiently perform virtually any XML data management task, from the simplest to the most advanced. Coverage includes pureXML in DB2 9 for z/OS and DB2 9.1, 9.5, and 9.7 for Linux, UNIX, and Windows Best practices for designing XML data, applications, and storage objects Importing, exporting, loading, replicating, and federating XML data Querying XML data, from start to finish: XPath and XQuery data model and languages, SQL/XML, stored procedures, UDFs, and much more Avoiding common errors and inefficient XML queries Converting relational data to XML and vice versa Updating and transforming XML documents Defining and working with XML indexes Monitoring and optimizing the performance of XML queries and other operations Using XML Schemas to constrain and validate XML documents XML application development—including code samples for Java, .NET, C, COBOL, PL/1, PHP, and Perl

IBM® DB2® Version 11.1 for z/OS® (DB2 11 for z/OS or just DB2 11 throughout this book) is the fifteenth release of DB2 for IBM MVSTM. The DB2 11 environment is available either for new installations of DB2 or for migrations from DB2 10 for z/OS subsystems only. This IBM Redbooks® publication describes enhancements that are available with DB2 11 for z/OS. The contents help database administrators to understand the new extensions and performance enhancements, to plan for ways to use the key new capabilities, and to justify the investment in installing or migrating to DB2 11. Businesses are faced with a global and increasingly competitive business environment, and they need to collect and analyze ever increasing amounts of data (Figure 1). Governments also need to collect and analyze large amounts of

data. The main focus of this book is to introduce recent DB2 capability that can be used to address challenges facing organizations with storing and analyzing exploding amounts of business or organizational data, while managing risk and trying to meet new regulatory and compliance requirements. This book describes recent extensions to DB2 for z/OS in V10 and V11 that can help organizations address these challenges.

Dynamic organizations want to accelerate growth while reducing costs. To do so, they must speed the deployment of business applications and adapt quickly to any changes in priorities. Organizations require an IT infrastructure to be easy, efficient, and versatile. The VersaStack solution by Cisco and IBM® can help you accelerate the deployment of your datacenters. It reduces costs by more efficiently managing information and resources while maintaining your ability to adapt to business change. The VersaStack solution combines the innovation of Cisco Unified Computing System (Cisco UCS) Integrated Infrastructure with the efficiency of the IBM Storwize® storage system. The Cisco UCS Integrated Infrastructure includes the Cisco UCS, Cisco Nexus and Cisco MDS switches, and Cisco UCS Director. The IBM Storwize V7000 storage system enhances virtual environments with its Data Virtualization, IBM Real-time Compression™, and IBM Easy Tier® features. These features deliver extraordinary levels of performance and efficiency. The VersaStack solution is Cisco Application Centric Infrastructure (ACI) ready. Your IT team can build, deploy, secure, and maintain applications through a more agile framework. Cisco Intercloud Fabric capabilities help enable the creation of open and highly secure solutions for the hybrid cloud. These solutions accelerate your IT transformation while delivering dramatic improvements in operational efficiency and simplicity. Cisco and IBM are global leaders in the IT industry. The VersaStack solution gives you the opportunity to take advantage of integrated infrastructure solutions that are targeted at enterprise applications, analytics, and cloud solutions. The VersaStack solution is backed by Cisco Validated Designs (CVDs) to provide faster delivery of applications, greater IT efficiency, and less risk. This IBM Redbooks® publication is aimed at experienced storage administrators that are tasked with deploying a VersaStack solution with IBM DB2® High Availability (DB2 HA), IBM Spectrum™ Protect, and IBM Spectrum Control™.

Marketshare for DB2 has been growing steadily over the past 5 years and with the recent release of DB2 Universal Database V8, the product has never had more momentum. Not only is the product used in every company on the Fortune 500, but it is becoming very popular in the small to medium sized businesses as well. Sams Teach Yourself DB2 Universal Database in 21 Days, Second Edition, focuses on performing tasks using the graphical interfaces and wizards that are provided with DB2 on the Windows platform. (DB2 also runs on z/OS, OS/400, AIX, Linux, HP-UX, and Sun Solaris.) Readers are guided through performing all the commonly used tasks to run DB2, including installing DB2, setting up DB2, creating databases and tables, populating the database with data, accessing the data, ensuring the database is tuned for performance. This book differs from the competition in that it provides examples and scenarios making it very easy for the reader to learn complicated tasks. It gives them everything they need for the commonly used tasks in a simple to understand manner. Quizzes and exercises strengthen the knowledge gained and ensure concepts are learned rather than memorized.

Linux® is one of the fastest growing server operating platforms within the past few years. DB2® has long been known for its technology leadership. This IBM® Redbooks® publication is an informative guide that describes how to effectively integrate DB2 for Linux, UNIX®, and Windows® (LUW) with SUSE and Red Hat Linux operating systems. This book provides both introductory and detailed information about installing, configuring, managing, and monitoring DB2 in a Linux environment. We describe the DB2 product family and features for Linux, and we provide step-by-step instructions for a single as well as for a multiple partition DB2 system installation and configuration. We discuss how to migrate single and multiple partition DB2 to DB2 Version 9.5, and discuss, in detail, DB2 database administration in a Linux environment, procedures and tools for database backup and recovery, online maintenance, and system monitoring. We cover DB2 integrated tools and their features and use. We discuss aspects of DB2 application development in the Linux environment and provide general tips about building and running DB2 applications on Linux and the use of DB2 application development tools.

IBM® DB2® Version 11.1 for z/OS® (DB2 11 for z/OS or just DB2 11 throughout this book) is the fifteenth release of DB2 for IBM MVSTM. It brings performance and synergy with the IBM System z® hardware and opportunities to drive business value in the following areas. DB2 11 can provide unmatched reliability, availability, and scalability - Improved data sharing performance and efficiency - Less downtime by removing growth limitations - Simplified management, improved autonomies, and reduced planned outages DB2 11 can save money and save time - Aggressive CPU reduction goals - Additional utilities performance and CPU improvements - Save time and resources with new autonomic and application development capabilities DB2 11 provides simpler, faster migration - SQL compatibility, divorce system migration from application migration - Access path stability improvements - Better application performance with SQL and XML enhancements DB2 11 includes enhanced business analytics - Faster, more efficient performance for query workloads - Accelerator enhancements - More efficient inline database scoring enables predictive analytics The DB2 11 environment is available either for new installations of DB2 or for migrations from DB2 10 for z/OS subsystems only. This IBM Redbooks® publication introduces the enhancements made available with DB2 11 for z/OS. The contents help database administrators to understand the new functions and performance enhancements, to plan for ways to use the key new capabilities, and to justify the investment in installing or migrating to DB2 11.

The IBM® DB2® Analytics Accelerator Version 2.1 for IBM z/OS® (also called DB2 Analytics Accelerator or Query Accelerator in this book and in DB2 for z/OS documentation) is a marriage of the IBM System z® Quality of Service and Netezza® technology to accelerate complex queries in a DB2 for z/OS highly secure and available environment. Superior performance and scalability with rapid appliance deployment provide an ideal solution for complex analysis. This IBM Redbooks® publication provides technical decision-makers with a broad understanding of the IBM DB2 Analytics Accelerator architecture and its exploitation by documenting the steps for the installation of this solution in an existing DB2 10 for z/OS environment. In this book we define a business analytics scenario, evaluate the potential benefits of the DB2 Analytics Accelerator appliance, describe the installation and integration steps with the DB2 environment, evaluate performance, and show the advantages to existing business intelligence processes.

Studio dDie Mittelstufe. B2/1 : Deutsch als Fremdsprache : Kurs- und ÜbungsbuchStudio dB2/2 Lösungen : Die Mittelstufe - Kurs- und Übungsbuch. B2/2, LösungenData Studio and DB2 for z/OS Stored ProceduresIBM Redbooks

The IBM® DB2® Analytics Accelerator for IBM z/OS® is a high-performance appliance that integrates the IBM zEnterprise® infrastructure with IBM PureData™ for Analytics, powered by IBM Netezza® technology. With this integration, you can accelerate data-intensive and complex queries in a DB2 for z/OS highly secure and available environment. DB2 and the Analytics Accelerator appliance form a self-managing hybrid environment running online transaction processing and online transactional analytical processing concurrently and efficiently. These online transactions run together with business intelligence and online analytic processing workloads. DB2 Analytics Accelerator V4.1 expands the value of high-performance analytics. DB2 Analytics Accelerator V4.1 opens to static Structured Query Language (SQL) applications and row set processing, minimizes data movement, reduces latency, and improves availability. This IBM Redbooks® publication provides technical decision-makers with an understanding of the benefits of version 4.1 of the Analytics Accelerator with DB2 11 for z/OS. It describes the installation of the new functions, and the advantages to existing analytical processes as measured in our test environment. This book also introduces the DB2 Analytics Accelerator Loader V1.1, a tool that facilitates the data population of the DB2 Analytics Accelerator.

In this IBM Redbooks publication, we discuss and describe a multidimensional data warehousing infrastructure that can enable solutions for complex problems in an efficient and effective manner. The focus of this infrastructure is the InfoSphere Warehouse Cubing Services

Feature. With this feature, DB2 becomes the data store for large volumes of data that you can use to perform multidimensional analysis, which enables viewing complex problems from multiple perspectives, which provides more information for management business decision making. This feature supports analytic tool interfaces from powerful data analysis tools, such as Cognos 8 BI, Microsoft Excel, and Alphablox. This is a significant capability that supports and enhances the analytics that clients use as they work to resolve problems with an ever growing scope, dimension, and complexity. Analyzing problems by performing more detailed queries on the data and viewing the results from multiple perspectives yields significantly more information and insight. Building multidimensional cubes based on underlying DB2 relational tables, without having to move or replicate the data, enables significantly more powerful data analysis with less work and leads to faster problem resolution with the capability for more informed management decision making. This capability is known as No Copy Analytics and is made possible with InfoSphere Warehouse Cubing Services.

The DB2® pureXML® feature offers sophisticated capabilities to store, process and manage XML data in its native hierarchical format. By integrating XML data intact into a relational database structure, users can take full advantage of DB2's relational data management features. In this IBM® Redbooks® publication, we document the steps for the implementation of a simple but meaningful XML application scenario. We have chosen to provide samples in COBOL and Java™ language. The purpose is to provide an easy path to follow to integrate the XML data type for the traditional DB2 for z/OS® user. We also add considerations for the data administrator and suggest best practices for ease of use and better performance.

Transforming data from operational data models to purpose-oriented data structures has been commonplace for the last decades. Data transformations are heavily used in all types of industries to provide information to various users at different levels. Depending on individual needs, the transformed data is stored in various different systems. Sending operational data to other systems for further processing is then required, and introduces much complexity to an existing information technology (IT) infrastructure. Although maintenance of additional hardware and software is one component, potential inconsistencies and individually managed refresh cycles are others. For decades, there was no simple and efficient way to perform data transformations on the source system of operational data. With IBM® DB2® Analytics Accelerator, DB2 for z/OS is now in a unique position to complete these transformations in an efficient and well-performing way. DB2 for z/OS completes these while connecting to the same platform as for operational transactions, helping you to minimize your efforts to manage existing IT infrastructure. Real-time analytics on incoming operational transactions is another demand. Creating a comprehensive scoring model to detect specific patterns inside your data can easily require multiple iterations and multiple hours to complete. By enabling a first set of analytical functionality in DB2 Analytics Accelerator, those dedicated mining algorithms can now be run on an accelerator to efficiently perform these modeling tasks. Given the speed of query processing on an accelerator, these modeling tasks can now be performed much quicker compared to traditional relational database management systems. This speed enables you to keep your scoring algorithms more up-to-date, and ultimately adapt more quickly to constantly changing customer behaviors. This IBM Redbooks® publication describes the new table type that is introduced with DB2 Analytics Accelerator V4.1 PTF5 that enables more efficient data transformations. These tables are called accelerator-only tables, and can exist on an accelerator only. The tables benefit from the accelerator performance characteristics, while maintaining access through existing DB2 for z/OS application programming interfaces (APIs). Additionally, we describe the newly introduced analytical capabilities with DB2 Analytics Accelerator V5.1, putting you in the position to efficiently perform data modeling for online analytical requirements in your DB2 for z/OS environment. This book is intended for technical decision-makers who want to get a broad understanding about the analytical capabilities and accelerator-only tables of DB2 Analytics Accelerator. In addition, you learn about how these capabilities can be used to accelerate in-database transformations and in-database analytics in various environments and scenarios, including the following scenarios: Multi-step processing and reporting in IBM DB2 Query Management Facility™, IBM Campaign, or Microstrategy environments In-database transformations using IBM InfoSphere® DataStage® Ad hoc data analysis for data scientists In-database analytics using IBM SPSS® Modeler

DB2 Developer's Guide is the field's #1 go-to source for on-the-job information on programming and administering DB2 on IBM z/OS mainframes. Now, three-time IBM Information Champion Craig S. Mullins has thoroughly updated this classic for DB2 v9 and v10. Mullins fully covers new DB2 innovations including temporal database support; hashing; universal tablespaces; pureXML; performance, security and governance improvements; new data types, and much more. Using current versions of DB2 for z/OS, readers will learn how to: * Build better databases and applications for CICS, IMS, batch, CAF, and RRSAP * Write proficient, code-optimized DB2 SQL * Implement efficient dynamic and static SQL applications * Use binding and rebinding to optimize applications * Efficiently create, administer, and manage DB2 databases and applications * Design, build, and populate efficient DB2 database structures for online, batch, and data warehousing * Improve the performance of DB2 subsystems, databases, utilities, programs, and SQL stat DB2 Developer's Guide, Sixth Edition builds on the unique approach that has made previous editions so valuable. It combines: * Condensed, easy-to-read coverage of all essential topics: information otherwise scattered through dozens of documents * Detailed discussions of crucial details within each topic * Expert, field-tested implementation advice * Sensible examples

DB2 9 for z/OS is an exciting new version, with many improvements in performance and little regression. DB2 V9 improves availability and security, as well as adds greatly to SQL and XML functions. Optimization improvements include more SQL functions to optimize, improved statistics for the optimizer, better optimization techniques, and a new approach to providing information for tuning. V8 SQL procedures were not eligible to run on the IBM System z9 Integrated Information Processor (zIIP), but changing to use the native SQL procedures on DB2 V9 makes the work eligible for zIIP processing. The performance of varying length data can improve substantially if there are large numbers of varying length columns. Several improvements in disk access can reduce the time for sequential disk access and improve data rates. The key DB2 9 for z/OS performance improvements include reduced CPU time in many utilities, deep synergy with IBM System z hardware and z/OS software, improved performance and scalability for inserts and LOBs, improved SQL optimization, zIIP processing for remote native SQL procedures, index compression, reduced CPU time for data with varying lengths, and better sequential access. Virtual storage use below the 2 GB bar is also improved. This IBM Redbooks publication provides an overview of the performance impact of DB2 9 for z/OS, especially performance scalability for transactions, CPU, and elapsed time for queries and utilities. We discuss the overall performance and possible impacts when moving from version to version. We include performance measurements that were made in the laboratory and provide some estimates. Keep in mind that your results are likely to vary, as the conditions and work will differ. In this book, we assume that you are familiar with DB2 V9. See DB2 9 for z/OS Technical Overview, SG24-7330, for an introduction to the new functions.

The Easy, Visual Introduction to IBM DB2 Version 10.5 for Linux, UNIX, and Windows Foreword by Judy Huber, Vice President, Distributed Data Servers and Data Warehousing; Director, IBM Canada Laboratory This book covers everything you need to get productive with the latest version of IBM DB2 and apply it to today's business challenges. It discusses key features introduced in DB2 Versions 10.5, 10.1, and 9.7, including improvements in manageability, integration, security, Big Data support, BLU Acceleration, and cloud computing. DB2 Essentials illuminates key concepts with examples drawn from the authors' extensive experience with DB2 in enterprise environments. Raul F. Chong and Clara Liu explain how DB2 has evolved, what's new, and how to choose the right products, editions, and tools. Next, they walk through installation, configuration, security, data access, remote connectivity, and day-to-day administration. Each chapter starts with an illustrative overview to introduce its key concepts using a big picture approach. Clearly explained figures are used extensively, and techniques are presented with intuitive screenshots, diagrams, charts, and tables. Case studies illustrate how "theory" is applied in real-life environments,

and hundreds of review questions help you prepare for IBM's newest DB2 certification exams. Coverage includes • Understanding the role of DB2 in Big Data • Preparing for and executing a smooth installation or upgrade • Understanding the DB2 environment, instances, and databases • Configuring client and server connectivity • Working with database objects • Getting started with BLU Acceleration • Implementing security: authentication and authorization • Understanding concurrency and locking • Maintaining, backing up, and recovering data • Using basic SQL in DB2 environments • Diagnosing and solving DB2 problems This book is for anyone who plans to work with DB2, including DBAs, system administrators, developers, and consultants. It will be a great resource whether you're upgrading from an older version of DB2, migrating from a competitive database, or learning your first database platform.

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