

Oracle PL SQL Best Practices

[Oracle PL/SQL Best Practices](#) [Oracle PL/SQL Best Practices ADO.NET Examples and Best Practices for C# Programmers](#) [SQL Server Advanced Troubleshooting and Performance Tuning](#) [Oracle PL / SQL For Dummies](#) [Java Database Best Practices](#) [Sybase Transact SQL Guidelines Best Practices](#) [SQL Design Patterns](#) [Simply SQL](#) [Pro SQL Server Relational Database Design and Implementation](#) [Joe Celko's SQL Programming Style](#) [Java Enterprise Best Practices](#) [Learning SQL](#) [Beginning T-SQL](#) [J2EE Best Practices](#) [IBM Business Process Manager V8.5 Performance Tuning and Best Practices](#) [Excel Best Practices for Business](#) [Oracle PL/SQL Language Pocket Reference](#) [Pro Oracle SQL Development](#) [Pro SQL Server 2012 Practices](#) [DataPower SOA Appliance Service Planning, Implementation, and Best Practices](#) [Virtualizing Microsoft Tier 1 Applications with VMware vSphere 4 Technology Best Practices](#) [System Center Operations Manager 2007 Unleashed](#) [Microsoft SQL Server 2012 Bible](#) [Beginning T-SQL](#) [ADO Examples and Best Practices](#) [The Guru's Guide to Transact-SQL](#) [Learn T-SQL From Scratch](#) [SQL Server 2008 Administration Instant Reference](#) [Professional Microsoft SQL Server 2012 Integration Services](#) [Pro SQL Server Relational Database Design and Implementation](#) [Professional Microsoft SQL Server 2014 Integration Services](#) [Real World SQL Server Administration with Perl](#) [Microsoft Power BI Performance Best Practices](#) [Oracle Tuning](#) [SharePoint 2007: The Definitive Guide](#) [Pro .NET Best Practices](#) [Learn T-SQL Querying](#) [Pro SQL Server 2008 Policy-Based Management](#)

Thank you for reading **Oracle PL SQL Best Practices**. Maybe you have knowledge that, people have search numerous times for their chosen novels like this Oracle PL SQL Best Practices, but end up in harmful downloads.

Rather than reading a good book with a cup of tea in the afternoon, instead they are facing with some harmful virus inside their desktop computer.

Oracle PL SQL Best Practices is available in our book collection an online access to it is set as public so you can get it instantly.

Our books collection saves in multiple countries, allowing you to get the most less latency time to download any of our books like this one.

Kindly say, the Oracle PL SQL Best Practices is universally compatible with any devices to read

IBM Business Process Manager V8.5 Performance Tuning and Best Practices Jul 11 2021 This IBM® Redbooks® publication provides performance tuning tips and best practices for IBM Business Process Manager (IBM BPM) V8.5.5 (all editions) and IBM Business Monitor V8.5.5. These products represent an integrated development and runtime environment based on a key set of service-oriented architecture (SOA) and business process management (BPM) technologies. Such technologies include Service Component Architecture (SCA), Service Data Object (SDO), Business Process Execution Language (BPEL) for web services, and Business Processing Modeling Notation (BPMN). Both IBM Business Process Manager and Business Monitor build on the core capabilities of the IBM WebSphere® Application Server infrastructure. As a result, Business Process Manager solutions benefit from tuning, configuration, and best practices information for WebSphere Application Server and the corresponding platform Java virtual machines (JVMs). This book targets a wide variety of groups, both within IBM (development, services, technical sales, and others) and customers. For customers who are either considering or are in the early stages of implementing a solution incorporating Business Process Manager and Business Monitor, this document proves a useful reference. The book is useful both in terms of best practices during application development and deployment and as a reference for setup, tuning, and configuration information. This book talks about many issues that can influence performance of each product and can serve as a guide for making rational first choices in terms of configuration and performance settings. Similarly, customers who already implemented a solution with these products can use the information presented here to gain insight into how their overall integrated solution performance can be improved.

ADO Examples and Best Practices Jul 31 2020 Visual Basic database developers are faced with a dizzying cornucopia of choices when it comes to data access paradigms. The purpose of this book is to make the choice and implementation of the best of those technologies far easier. It does this through working examples and numerous discussions of what works and what does not. Vaughns "Best Practices" are the techniques that developers need to know because they cause the least amount of overhead, problems and confusion. While some are quite simple to implement, other "Best Practices" require considerable thought and planning. This is a developers bookfull of hints, tips, and notes passed on from those who show the medals and scars of battles won and lost.

Java Enterprise Best Practices Nov 15 2021 Java developers typically go through four "stages" in mastering Java. In the first stage, they learn the language itself. In the second stage, they study the APIs. In the third stage, they become proficient in the environment. It is in the fourth stage --"the expert stage"-- where things really get interesting, and Java Enterprise Best Practices is the tangible compendium of experience that developers need to breeze through this fourth and final stage of Enterprise Java mastery. Crammed with tips and tricks, Java Enterprise Best Practices distills years of solid experience from eleven experts in the J2EE environment into a practical, to-the-point guide to J2EE. Java Enterprise Best Practices gives developers the unvarnished, expert-tested advice that the man pages don't provide--what areas of the APIs should be used frequently (and which are better avoided); elegant solutions to problems you face that other developers have already discovered; what things you should always do, what things you should consider doing, and what things you should never do--even if the documentation says it's ok. Until Java Enterprise Best Practices, Java developers in the fourth stage of mastery relied on the advice of a loose-knit community of fellow developers, time-consuming online searches for examples or suggestions for the immediate problem they faced, and tedious trial-and-error. But Java has grown to include a huge number of APIs, classes, and methods. Now it is simply too large for even the most intrepid developer to know it all. The need for a written compendium of J2EE Best Practices has never been greater. Java Enterprise Best Practices focuses on the Java 2 Enterprise Edition (J2EE) APIs. The J2EE APIs include such alphabet soup acronyms as EJB, JDBC, RMI, XML, and JMX.

Simply SQL Feb 18 2022 Packed with examples, Simply SQL is a step-by-step introduction to learning SQL. You'll discover how easy it is to use SQL to interact with best-practice, robust databases. Rather than bore you with theory, it focuses on the practical use of SQL with common databases and uses plenty of diagrams, easy-to-read text, and examples to help make learning SQL easy and fun. Step through the basic SQL syntax Learn how to use best practices in database design Master advanced syntax like inner joins, groups, and subqueries Understand the SQL datatypes And much more...

Professional Microsoft SQL Server 2012 Integration Services Mar 27 2020 An in-depth look at the radical changes to the newest release of SISS Microsoft SQL Server 2012 Integration Services (SISS) builds on the revolutionary database product suite first introduced in 2005. With this crucial resource, you will explore how this newest release serves as a powerful tool for performing extraction, transformation, and load operations (ETL). A team of SQL Server experts deciphers this complex topic and provides detailed coverage of the new features of the 2012 product release. In addition to technical updates and additions, the authors present you with a new set of SISS best practices, based on years of real-world experience that have transpired since the previous edition was published. Details the newest features of the 2012 SISS product release, which is the most significant release since 2005 Addresses the keys to a successful ETL solution, such as using the right enterprise ETL tool and employing the right ETL architecture in order to meet the system requirements Includes additional case studies and tutorial examples to illustrate advanced concepts and techniques Professional Microsoft SQL Server 2012 Integration Services is a valuable resource that meets the demands and high expectations of experienced SSIS professionals.

SQL Server 2008 Administration Instant Reference Apr 27 2020 Perfect companion to any SQL Server 2008 book, providing fast, accurate answers on the spot for millions of IT professionals System and database administrators, IT consultants, and database application developers often need quick answers and practical solutions for SQL Server issues. This convenient guide offers you quick referencing for the product and database topics you need most. If you're an IT administrator looking for the essentials in the day-to-day tasks of administering SQL Server 2008, you'll appreciate this book's design for providing quick and easy look up of solutions and tables, lists, and step-by-step instructions for answers on the spot. SQL Server 2008 Instant Administration Reference is a guide that you want to keep within reach. SQL Server is Microsoft's bestselling database manager; the 2008 version offers enhanced security and high availability, encouraging users to upgrade Features thumb tabs, secondary and tertiary tables of contents, and special heading treatments to provide quick and easy lookup, as

well as quick-reference tables and lists to provide answers on the spot Covers installing, configuring, managing, and maintaining SQL Server; optimizing server performance; and troubleshooting SQL Server 2008 Administration Instant Reference answers the questions you encounter most often in your daily work.

Microsoft SQL Server 2012 Bible Oct 02 2020 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.

Pro SQL Server 2012 Practices Mar 07 2021 Pro SQL Server 2012 Practices is an anthology of high-end wisdom from a group of accomplished database administrators who are quietly but relentlessly pushing the performance and feature envelope of Microsoft SQL Server 2012. With an emphasis upon performance—but also branching into release management, auditing, and other issues—the book helps you deliver the most value for your company's investment in Microsoft's flagship database system. Goes beyond the manual to cover good techniques and best practices Delivers knowledge usually gained only by hard experience Focuses upon performance, scalability, reliability Helps achieve the predictability needed to be in control at all times

Pro SQL Server Relational Database Design and Implementation Feb 24 2020 Learn effective and scalable database design techniques in a SQL Server 2016 and higher environment. This book is revised to cover in-memory online transaction processing, temporal data storage, row-level security, durability enhancements, and other design-related features that are new or changed in SQL Server 2016. Designing an effective and scalable database using SQL Server is a task requiring skills that have been around for forty years coupled with technology that is constantly changing. Pro SQL Server Relational Database Design and Implementation covers everything from design logic that business users will understand, all the way to the physical implementation of design in a SQL Server database. Grounded in best practices and a solid understanding of the underlying theory, Louis Davidson shows how to "get it right" in SQL Server database design and lay a solid groundwork for the future use of valuable business data. The pace of change in relational database management systems has been tremendous these past few years. Whereas in the past it was enough to think about optimizing data residing on spinning hard drives, today one also must consider solid-state storage as well as data that are constantly held in memory and never written to disk at all except as a backup. Furthermore, there is a trend toward hybrid cloud and on-premise database configurations as well a move toward preconfigured appliances. Pro SQL Server Relational Database Design and Implementation guides in the understanding of these massive changes and in their application toward sound database design. Gives a solid foundation in best practices and relational theory Covers the latest implementation features in SQL Server 2016 Helps you master in-memory OLTP and use it effectively Takes you from conceptual design to an effective, physical implementation What You Will Learn Develop conceptual models of client data using interviews and client documentation Recognize and apply common database design patterns Normalize data models to enhance scalability and the long term use of valuable data Translate conceptual models into high-performing SQL Server databases Secure and protect data integrity as part of meeting regulatory requirements Create effective indexing to speed query performance Who This Book Is For Programmers and database administrators of all types who want to use SQL Server to store data. The book is especially useful to those wanting to learn the very latest design features in SQL Server 2016, features that include an improved approach to in-memory OLTP, durability enhancements, temporal data support, and more. Chapters on fundamental concepts, the language of database modeling, SQL implementation, and of course, the normalization process, lay a solid groundwork for readers who are just entering the field of database design. More advanced chapters serve the seasoned veteran by tackling the very latest in physical implementation features that SQL Server has to offer. The book has been carefully revised to cover all the design-related features that are new in SQL Server 2016.

Oracle PL/SQL Best Practices Sep 25 2022 In this compact book, Steven Feuerstein, widely recognized as one of the world's leading experts on the Oracle PL/SQL language, distills his many years of programming, teaching, and writing about PL/SQL into a set of best practices-recommendations for developing successful applications. Covering the latest Oracle release, Oracle Database 11gR2, Feuerstein has rewritten this new edition in the style of his bestselling Oracle PL/SQL Programming. The text is organized in a problem/solution format, and chronicles the programming exploits of developers at a mythical company called My Flimsy Excuse, Inc., as they write code, make mistakes, and learn from those mistakes-and each other. This book offers practical answers to some of the hardest questions faced by PL/SQL developers, including: What is the best way to write the SQL logic in my application code? How should I write my packages so they can be leveraged by my entire team of developers? How can I make sure that all my team's programs handle and record errors consistently? Oracle PL/SQL Best Practices summarizes PL/SQL best practices in nine major categories: overall PL/SQL application development; programming standards; program testing, tracing, and debugging; variables and data structures; control logic; error handling; the use of SQL in PL/SQL; building procedures, functions, packages, and triggers; and overall program performance. This book is a concise and entertaining guide that PL/SQL developers will turn to again and again as they seek out ways to write higher quality code and more successful applications. "This book presents ideas that make the difference between a successful project and one that never gets off the ground. It goes beyond just listing a set of rules, and provides realistic scenarios that help the reader understand where the rules come from. This book should be required reading for any team of Oracle database professionals." --Dwayne King, President, KRIDAN Consulting

Oracle PL/SQL Best Practices Oct 26 2022 In this book, Steven Feuerstein, widely recognized as one of the world's experts on the Oracle PL/SQL language, distills his many years of programming, writing, and teaching about PL/SQL into a set of PL/SQL language "best practices"--rules for writing code that is readable, maintainable, and efficient. Too often, developers focus on simply writing programs that run without errors--and ignore the impact of poorly written code upon both system performance and their ability (and their colleagues' ability) to maintain that code over time.Oracle PL/SQL Best Practices is a concise, easy-to-use reference to Feuerstein's recommendations for excellent PL/SQL coding. It answers the kinds of questions PL/SQL developers most frequently ask about their code: How should I format my code? What naming conventions, if any, should I use? How can I write my packages so they can be more easily maintained? What is the most efficient way to query information from the database? How can I get all the developers on my team to handle errors the same way? The book contains 120 best practices, divided by topic area. It's full of advice on the program development process, coding style, writing SQL in PL/SQL, data structures, control structures, exception handling, program and package construction, and built-in packages. It also contains a handy, pull-out quick reference card. As a helpful supplement to the text, code examples demonstrating each of the best practices are available on the O'Reilly web site.Oracle PL/SQL Best Practices is intended as a companion to O'Reilly's larger Oracle PL/SQL books. It's a compact, readable reference that you'll turn to again and again--a book that no serious developer can afford to be without.

Learn T-SQL Querying Jul 19 2019 Troubleshoot query performance issues, identify anti-patterns in code, and write efficient T-SQL queries Key FeaturesDiscover T-SQL functionalities and services that help you interact with relational databasesUnderstand the roles, tasks and responsibilities of a T-SQL developer Explore solutions for carrying out database querying tasks, database administration, and troubleshootingBook Description Transact-SQL (T-SQL) is Microsoft's proprietary extension to the SQL language that is used with Microsoft SQL Server and Azure SQL Database. This book will be a useful guide to learning the art of writing efficient T-SQL code in modern SQL Server versions, as well as the Azure SQL Database. The book will get you started with query processing fundamentals to help you write powerful, performant T-SQL queries. You will then focus on query execution plans and learn how to leverage them for troubleshooting. In the later chapters, you will learn how to identify various T-SQL patterns and anti-patterns. This will help you analyze execution plans to gain insights into current performance, and determine whether or not a query is scalable. You will also learn to build diagnostic queries using dynamic management views (DMVs) and dynamic management functions (DMFs) to address various challenges in T-SQL execution. Next, you will study how to leverage the built-in tools of SQL Server to shorten the time taken to address query performance and scalability issues. In the concluding chapters, the book will guide you through implementing various features, such as Extended Events, Query Store, and Query Tuning Assistant using hands-on examples. By the end of this book, you will have the skills to determine query performance bottlenecks, avoid pitfalls, and discover the anti-patterns in use. Foreword by Conor Cunningham, Partner Architect – SQL Server and Azure SQL – Microsoft What you will learnUse Query Store to understand and easily change query

performanceRecognize and eliminate bottlenecks that lead to slow performanceDeploy quick fixes and long-term solutions to improve query performanceImplement best practices to minimize performance risk using T-SQLAchieve optimal performance by ensuring careful query and index designUse the latest performance optimization features in SQL Server 2017 and SQL Server 2019Protect query performance during upgrades to newer versions of SQL ServerWho this book is for This book is for database administrators, database developers, data analysts, data scientists, and T-SQL practitioners who want to get started with writing T-SQL code and troubleshooting query performance issues, through the help of practical examples. Previous knowledge of T-SQL querying is not required to get started on this book.

DataPower SOA Appliance Service Planning, Implementation, and Best Practices Feb 06 2021 This IBM® Redbooks® publication will help you to better understand the effective use of the WebSphere® DataPower® family of appliances. It provides guidance on the best methods identified to date for building the various components that implement solutions, such as handling MQ-based message flows or creating authentication and authorization policies. The information and recommendations in this publication are the result of real world experiences using the appliances. Such experience shows that taking the time to plan a solution implementation before beginning the work yields the greatest savings in time and energy and the highest quality outcome. This publication begins with a checklist of items to consider when planning a DataPower solution. This publication is intended to provide answers or guidance to implementation problems often encountered by users of the appliance. This book is not intended to present complete solutions or templates because experience shows that every customer uses the appliance in their own unique environment with unique requirements. Thus, this publication provides a compendium of information about particular aspects of a solution. Use the Table of Contents or Index to find your current issue, and return to this publication when the next issue or question arises. Refer to the related IBM Redbooks publication entitled DataPower SOA Appliance Administration, Deployment, and Best Practices, SG24-7901 for more information.

Oracle Tuning Oct 22 2019 For Oracle tuning professionals wishing to add more tools to their Oracle tuning toolbox, this guidebook introduces the various tuning analytical tools and helpful strategies to make the database easier to use. Details describe how to extract information from the database and use it to determine and increase efficiency. It also provides specific steps with detailed information on how to congeal large amounts of database performance information into one pool from which the DBA can carefully choose tuning options based on what is predicted, all to give them the biggest improvement in performance for the least time and money investment. Sample code, sample code results, and guidelines on how to interpret the results help users manipulate code in an effective way. With countless hints, tips, and tools, the guide fully explains how to work with the Oracle system on order to achieve database performance excellence.

Professional Microsoft SQL Server 2014 Integration Services Jan 25 2020 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.

The Guru's Guide to Transact-SQL Jun 29 2020 Since its introduction over a decade ago, the Microsoft SQL Server query language, Transact-SQL, has become increasingly popular and more powerful. The current version sports such advanced features as OLE Automation support, cross-platform querying facilities, and full-text search management. This book is the consummate guide to Microsoft Transact-SQL. From data type nuances to complex statistical computations to the bevy of undocumented features in the language, The Guru's Guide to Transact-SQL imparts the knowledge you need to become a virtuoso of the language as quickly as possible. In this book, you will find the information, explanations, and advice you need to master Transact-SQL and develop the best possible Transact-SQL code. Some 600 code examples not only illustrate important concepts and best practices, but also provide working Transact-SQL code that can be incorporated into your own real-world DBMS applications. Your journey begins with an introduction explaining language fundamentals such as database and table creation, inserting and updating data, queries, joins, data presentation, and managing transactions. Moving on to more advanced topics, the journey continues with in-depth coverage of: Transact-SQL performance tuning using tools such as Query Analyzer and Performance Monitor Nuances of the various T-SQL data types Complex statistical calculations such as medians, modes, and sliding aggregates Run, sequence, and series identification and interrogation Advanced Data Definition Language (DDL) and Data Management Language (DML) techniques Stored procedure and trigger best practices and coding methods Transaction management Optimal cursor use and caveats to look out for Full-text search Hierarchies and arrays Administrative Transact-SQL OLE Automation More than 100 undocumented commands and language features, including numerous unpublished DBCC command verbs, trace flags, stored procedures, and functions Comprehensive, written in understandable terms, and full of practical information and examples, The Guru's Guide to Transact-SQL is an indispensable reference for anyone working with this database development language. The accompanying CD-ROM includes the complete set of code examples found in the book as well as a SQL programming environment that will speed the development of your own top-notch Transact-SQL code.

Excel Best Practices for Business Jun 10 2021 Spreadsheets have become the de facto standard for communicating business information and the preferred tool for analyzing business data. In this current climate, the accuracy and clarity of spreadsheets are paramount. However, busy managers have little time to sift through heaps of reference books to extrapolate techniques for making polished spreadsheets. Even with finished spreadsheets in hand, managers and business professionals still need a book which holds up a mirror to their real world situations and reflects hidden flaws; and then takes the next step and guides the reader in specific ways to rework these critical documents. Excel Best Practices for Business enables readers to examine their work and ask critical questions. And once asked, this book also answers with dynamic, practical approaches and provides Take-Aways extrapolated from real situations across a managerial spectrum, making this book more mentor than reference. In this book, a critical need is met. Book Highlights: XML in Microsoft Office Excel 2003: Entirely new to Excel 2003 is major support for XML, making Excel truly web capable and Internet ready. This book provides extensive coverage of these new features from a hands-on perspective. It identifies subtleties, gotchas and problems, and shows you practical solutions and workarounds. SPREADSHEET PORTALS: This book introduces the topic of Spreadsheet Portals, which elevates spreadsheet practices for the Internet-ready software to the next level. Aside from explaining the basic concepts and principles of Desktop Client Portals, best practice techniques for building your portal pages and reference implementations are provided. These reference implementations, sample spreadsheets, and online demos are provided on the book's CD. SPREADSHEET MAKEOVERS: What do you do when your manager or boss asks you to take over a complex, spreadsheet-based application and send out reports every two weeks? The person who created the spreadsheet no longer works for the company. Aside from a few emails, there's no documentation. You look at the spreadsheet and you find it has flaws. Never mind about fixing the old reports; the new ones are going to go out with your name on it. This report is not your prime responsibility. You do not have the time or resources to turn this into a whole project, yet you can't afford to leave it the way it is. Excel Best Practices for Business provides a step-by-step approach to these "Mission Impossible" situations and walks you through the steps with fully worked out examples. ASSISTIVE TECHNOLOGIES: For the first time in a mainstream book, the topic of preparing accessible spreadsheets for individuals with disabilities is addressed. Government agencies needing to make electronic information section 508 compliant and corporations choosing not to alienate communities with special needs will find the techniques presented invaluable. You will learn from a hands-on perspective how to organize and design accessible spreadsheets for the visually impaired that will work with Screen Reader software, how to set up Screen Reader software, and how to build graphical components that will work with Screen Readers. These practices are carried to the next level with the introduction of Assistive Portals. This allows you to make spreadsheets accessible and avoid having to alter your original spreadsheets. The Portal Page does all the work. Because it is table driven, there are no formulas or scripts to modify. Think of how this will change the economics of preparing accessible documents. There are many more topics in Excel Best Practices For Business including: practical techniques for visualizing hard-to-present data, incorporating "Smart Data" into your spreadsheets, how to build a Data Overpass, quantification of uncertainty, conversion of mountains of legacy data into manageable and useful form, spreadsheet auditing to validate the work of others, a hands-on approach to working with the Excel Solver tool, spreadsheet construction techniques through both simple design and large, complex applications. If you want to find about these and many other techniques covered, then Excel Best Practices for Business is the perfect guide!

Virtualizing Microsoft Tier 1 Applications with VMware vSphere 4 Jan 05 2021 Virtualize mission-critical Microsoft applications How do you safely deploy Tier 1 apps in virtual environments? In this in-depth guide, VMware insiders Charles A. Windom, Hemant Gaidhani, and Alex Fontana show you how. Focusing on Microsoft applications, they guide you step by step through a Proof of Concept for virtualizing Windows Server, Active Directory, Internet Information Services, Exchange Server, SQL Server, SharePoint Server, and Remote Desktop Services—all on the VMware vSphere 4 platform. You'll find out what to consider for each application before you virtualize it, and learn how to perform VM backup using VMware Data Recovery, Windows patch management using VMware Update Manager, application performance monitoring using VMware AppSpeed, and more. Topics include: A Thorough Overview of VMware vSphere 4 Infrastructure Services Application Services Management Services (part of VMware vCenter Server) Virtualizing Windows Server 2008 Choose virtual hardware and learn how to add sufficient CPU and memory Run Microsoft Windows Server 2008 as a guest inside the vSphere environment Protect your applications and data and deliver high availability using Failover Clustering and Windows Network Load Balancing Virtualizing Other Microsoft Applications Active Directory Internet Information Services 7.0 Exchange Server 2007 and 2010 SQL Server 2005 and 2008 SharePoint Server 2007 Remote Desktop Services 2008 R2

System Center Operations Manager 2007 Unleashed Nov 03 2020 Provides information on the design, deployment, and configuration of OpsMgr 2007, covering such topics as setting up ACS, establishing client monitoring, and developing management packs and reports.

Oracle PL / SQL For Dummies Jun 22 2022 Find tips for creating efficient PL/SQL code If you know a bit about SQL, this book will make PL/SQL programming painless! The Oracle has spoken—you need to get up to speed on PL/SQL programming, right? We predict it'll be a breeze with this book! You'll find out about code structures, best practices, and code naming standards, how to use conditions and loops, where to place PL/SQL code in system projects, ways to manipulate data, and more. Discover how to Write efficient, easy-to-maintain code Test and debug PL/SQL routines Integrate SQL and PL/SQL Apply PL/SQL best practices Use new features introduced in Oracle 9i and 10g

Technology Best Practices Dec 04 2020 Offers access to www.technologybestpractices.com web site containing sample planning templates, contingency plans, policies, annual inventory worksheet, and Help Desk. Includes strategic technology planning, and managing and training techniques Shows how to apply technology tools to improve business.

Sybase Transact SQL Guidelines Best Practices Apr 20 2022 Sybase Transact SQL - Software Technology

SQL Server Advanced Troubleshooting and Performance Tuning Jul 23 2022 This book provides a comprehensive overview on best practices for troubleshooting and performance tuning in SQL Server. It reviews how to identify performance issues, how to troubleshoot the system in a holistic fashion, and how to properly prioritize tuning efforts in order to induce the best system performance possible. The book also discusses interdependencies between database components, while spotlighting ways to avoid the bottlenecks that can be triggered by those dependencies. The troubleshooting and performance tuning techniques presented in the book are compatible with any version of SQL Server. They cover both on-premise and Cloud-based SQL Server installations, including Microsoft Azure SQL Databases and Amazon SQL Server RDS. Reflecting the approaches used by many high-end SQL Server consultants, SQL Server Advanced Troubleshooting and Performance Tuning is a valuable resource that will help readers master troubleshooting and performance tuning skills and get the best performance out of SQL Server.

Joe Celko's SQL Programming Style Dec 16 2021 Are you an SQL programmer that, like many, came to SQL after learning and writing procedural or object-oriented code? Or have switched jobs to where a different brand of SQL is being used, or maybe even been told to learn SQL yourself? If even one answer is yes, then you need this book. A "Manual of Style" for the SQL programmer, this book is a collection of heuristics and rules, tips, and tricks that will help you improve SQL programming style and proficiency, and for formatting and writing portable, readable, maintainable SQL code. Based on many years of experience consulting in SQL shops, and gathering questions and resolving his students' SQL style issues, Joe Celko can help you become an even better SQL programmer. Help you write Standard SQL without an accent or a dialect that is used in another programming language or a specific flavor of SQL, code that can be maintained and used by other people. Enable you to give your group a coding standard for internal use, to enable programmers to use a consistent style. Give you the mental tools to approach a new problem with SQL as your tool, rather than another programming language — one that someone else might not know!

Beginning T-SQL Sep 01 2020 Get a performance-oriented introduction to the T-SQL language underlying the Microsoft SQL Server and Azure SQL database engines. This fourth edition is updated to include SQL Notebooks as well as up-to-date syntax and features for T-SQL on-premises and in the Azure cloud. Exercises and examples now include the WideWorldImporters database, the newest sample database from Microsoft for SQL Server. Also new in this edition is coverage of JSON from T-SQL, news about performance enhancements called Intelligent Query Processing, and an appendix on running SQL Server in a container on macOS or Linux. Beginning T-SQL starts you on the path to mastering T-SQL with an emphasis on best practices. Using the sound coding techniques taught in this book will lead to excellent performance in the queries that you write in your daily work. Important techniques such as windowing functions are covered to help you write fast-executing queries that solve real business problems. The book begins with an introduction to databases, normalization, and to setting up your learning environment. You will learn about the tools you need to use such as SQL Server Management Studio, Azure Data Studio, and SQL Notebooks. Each subsequent chapter teaches an aspect of T-SQL, building on the skills learned in previous chapters. Exercises in most chapters provide an opportunity for the hands-on practice that leads to true learning and distinguishes the competent professional. A stand-out feature in this book is that most chapters end with a Thinking About Performance section. These sections cover aspects of query performance relative to the content just presented, including the new Intelligent Query Processing features that make queries faster without changing code. They will help you avoid beginner mistakes by knowing about and thinking about performance from day 1. What You Will Learn Install a sandboxed SQL Server instance for learning Understand how relational databases are designed Create objects such as tables and stored procedures Query a SQL Server table Filter and order the results of a query Query and work with specialized data types such as XML and JSON Apply modern features such as window functions Choose correct techniques so that your queries perform well Who This Book Is For Anyone who wants to learn T-SQL from the beginning or improve their T-SQL skills; those who need T-SQL as an additional skill; and those who write queries such as application developers, database administrators, business intelligence developers, and data scientists. The book is also helpful for anyone who must retrieve data from a SQL Server database.

Pro SQL Server 2008 Policy-Based Management Jun 17 2019 Pro SQL Server 2008 Policy-Based Management is critical for database administrators seeking in-depth knowledge on administering servers using the new policy-based management features introduced in SQL Server 2008. This book will cover everything from a basic introduction to policy-based management to creating your own custom policies to enforce consistent rules across your organization. Provides in-depth treatment of policy-based management in a single source Provides practical usage scenarios for policy-based management Provides guidance to help meet growing regulatory compliance needs

Pro .NET Best Practices Aug 20 2019 Pro .NET Best Practices is a practical reference to the best practices that you can apply to your .NET projects today. You will learn standards, techniques, and conventions that are sharply focused, realistic and helpful for achieving results, steering clear of unproven, idealistic, and impractical recommendations. Pro .NET Best Practices covers a broad range of practices and principles that development experts agree are the right ways to develop software, which includes continuous integration, automated testing, automated deployment, and code analysis. Whether the solution is from a free and open source or a commercial offering, you will learn how to get a continuous integration server running and executing builds every time code changes. You will write clearer and more maintainable automated testing code that focuses on prevention and helping your .NET project succeed. By learning and following the .NET best practices in this book, you will avoid making the same mistakes once. With this book at your side, you'll get: Real-world, no-nonsense approaches to continuous integration, automated testing, automated deployment, and code analysis Tips and tricks you'll need to clear hurdles that keep others from putting these common sense ideas into common practice Guidance from the minimal, essential approach all the way to what's necessary to deliver at the highest levels of quality and effectiveness Benefit immediately, even before finishing it, from the knowledge, workable advice, and experience found in Pro .NET Best Practices.

Pro Oracle SQL Development Apr 08 2021 Write SQL statements that are more powerful, simpler, and faster using Oracle SQL and its full range of features. This book provides a clearer way of thinking about SQL by building sets, and provides practical advice for using complex features while avoiding anti-patterns that lead to poor performance and wrong results. Relevant theories, real-world best practices, and style guidelines help you get the most out of Oracle SQL. Pro Oracle SQL Development is for anyone who already knows Oracle SQL and is ready to take their skills to the next level. Many developers, analysts, testers, and

administrators use Oracle databases frequently, but their queries are limited because they do not have the knowledge, experience, or right environment to help them take full advantage of Oracle's advanced features. This book will inspire you to achieve more with your Oracle SQL statements through tips for creating your own style for writing simple, yet powerful, SQL. It teaches you how to think about and solve performance problems in Oracle SQL, and covers advanced topics and shows you how to become an Oracle expert. What You'll Learn Understand the power of Oracle SQL and where to apply it Create a database development environment that is simple, scalable, and conducive to learning Solve complex problems that were previously solved in a procedural language Write large Oracle SQL statements that are powerful, simple, and fast Apply coding styles to make your SQL statements more readable Tune large Oracle SQL statements to eliminate and avoid performance problems Who This Book Is For Developers, testers, analysts, and administrators who want to harness the full power of Oracle SQL to solve their problems as simply and as quickly as possible. For traditional database professionals the book offers new ways of thinking about the language they have used for so long. For modern full stack developers the book explains how a database can be much more than simply a place to store data.

Microsoft Power BI Performance Best Practices Nov 22 2019 Supercharge performance analytics and create repeatable patterns to ensure you get the best performance and scalability from your analytics solutions with Power BI Key Features Learn how to build performant data models and apply Row-Level Security Identify and fix performance issues in reports, DAX, and datasets using DAX Studio/VertiPaq Analyzer Use a formal process to manage performance, from setting targets to monitoring and remediating issues Book Description This book comprehensively covers every layer of Power BI, from the report canvas to data modeling, transformations, storage, and architecture. Developers and architects working with any area of Power BI will be able to put their knowledge to work with this practical guide to design and implement at every stage of the analytics solution development process. This book is not only a unique collection of best practices and tips, but also provides you with a hands-on approach to identifying and fixing common performance issues. Complete with explanations of essential concepts and practical examples, you'll learn about common design choices that affect performance and consume more resources and how to avoid these problems. You'll grasp the general architectural issues and settings that broadly affect most solutions. As you progress, you'll walk through each layer of a typical Power BI solution, learning how to ensure your designs can handle scale while not sacrificing usability. You'll focus on the data layer and then work your way up to report design. We will also cover Power BI Premium and load testing. By the end of this Power BI book, you'll be able to confidently maintain well-performing Power BI solutions with reduced effort and know how to use freely available tools and a systematic process to monitor and diagnose performance problems. What you will learn Understand how to set realistic performance targets and address performance proactively Understand how architectural options and configuration affect performance Build efficient Power BI reports and data transformations Explore best practices for data modeling, DAX, and large datasets Understand the inner workings of Power BI Premium Explore options for extreme scale with Azure services Understand how to use tools that help identify and fix performance issues Who this book is for Data analysts, BI developers, and data professionals who have learnt the basics of Power BI and now want to understand how to build advanced analytics solutions will find this business intelligence book useful. Familiarity with the major components of Power BI and a beginner-level understanding of their purpose and use cases are required.

Oracle PL/SQL Language Pocket Reference May 09 2021 The fourth edition of this popular pocket guide provides quick-reference information that will help you use Oracle's PL/SQL language, including the newest Oracle Database 11g features. It's a companion to Steven Feuerstein and Bill Pribyl's bestselling Oracle PL/SQL Programming. This concise guide boils down the most vital PL/SQL information into an accessible summary of: Fundamental language elements (e.g., block structure, datatypes, declarations) Statements for program control, cursor management, and exception handling Records, procedures, functions, triggers, and packages Calling PL/SQL functions in SQL Compilation options, object-oriented features, collections, and Java integration The new edition describes such Oracle Database 11g elements as PL/SQL's function result cache, compound triggers, the CONTINUE statement, the SIMPLE_INTEGER datatype, and improvements to native compilation, regular expressions, and compiler optimization (including intra-unit inlining). In addition, this book now includes substantial new sections on Oracle's built-in functions and packages. When you need answers quickly, the Oracle PL/SQL Language Pocket Reference will save you hours of frustration.

Learning SQL Oct 14 2021 Updated for the latest database management systems -- including MySQL 6.0, Oracle 11g, and Microsoft's SQL Server 2008 -- this introductory guide will get you up and running with SQL quickly. Whether you need to write database applications, perform administrative tasks, or generate reports, Learning SQL, Second Edition, will help you easily master all the SQL fundamentals. Each chapter presents a self-contained lesson on a key SQL concept or technique, with numerous illustrations and annotated examples. Exercises at the end of each chapter let you practice the skills you learn. With this book, you will: Move quickly through SQL basics and learn several advanced features Use SQL data statements to generate, manipulate, and retrieve data Create database objects, such as tables, indexes, and constraints, using SQL schema statements Learn how data sets interact with queries, and understand the importance of subqueries Convert and manipulate data with SQL's built-in functions, and use conditional logic in data statements Knowledge of SQL is a must for interacting with data. With Learning SQL, you'll quickly learn how to put the power and flexibility of this language to work.

J2EE Best Practices Aug 12 2021 Learn how to apply robust application design to your J2EE projects There are a number of best practices you need to consider to build highly effective J2EE components and integrate them into applications. These practices include evaluating and selecting the right set of software components and services to handle the job. In this book, Darren Broemmer supplies you with a set of best practices for J2EE development and then teaches you how to use them to construct an application architecture referred to as the reference architecture. The design and implementation of the reference architecture is based on a set of guiding principles that are used to optimize and automate J2EE development. In addition to the author's thorough discussions of the latest technologies for J2EE implementation-including EJB 2, Jakarta Struts, Servlets, Java Server Pages, UML, design patterns, Common Business Logic Foundation components, and XML-Broemmer addresses such topics as: Understanding J2EE application architecture Building business applications with J2EE, a business object architecture, and extensible components created with design patterns Designing and implementing a sample banking Web application Integrating proven performance-engineering and optimization practices in the development process Using metadata-driven, configurable foundation components to automate much of the development and processing of Web-based business applications The companion Web site contains the source code for a Common Business Logic Foundation and sample applications from the book, including a Jakarta Struts project and a banking application. Links to the Jakarta Struts frameworks and J2EE application servers such as BEA WebLogic and IBM WebSphere are also provided.

Pro SQL Server Relational Database Design and Implementation Jan 17 2022 Learn effective and scalable database design techniques in SQL Server 2019 and other recent SQL Server versions. This book is revised to cover additions to SQL Server that include SQL graph enhancements, in-memory online transaction processing, temporal data storage, row-level security, and other design-related features. This book will help you design OLTP databases that are high-quality, protect the integrity of your data, and perform fast on-premises, in the cloud, or in hybrid configurations. Designing an effective and scalable database using SQL Server is a task requiring skills that have been around for well over 30 years, using technology that is constantly changing. This book covers everything from design logic that business users will understand to the physical implementation of design in a SQL Server database. Grounded in best practices and a solid understanding of the underlying theory, author Louis Davidson shows you how to "get it right" in SQL Server database design and lay a solid groundwork for the future use of valuable business data. What You Will Learn Develop conceptual models of client data using interviews and client documentation Implement designs that work on premises, in the cloud, or in a hybrid approach Recognize and apply common database design patterns Normalize data models to enhance integrity and scalability of your databases for the long-term use of valuable data Translate conceptual models into high-performing SQL Server databases Secure and protect data integrity as part of meeting regulatory requirements Create effective indexing to speed query performance Understand the concepts of concurrency Who This Book Is For Programmers and database administrators of all types who want to use SQL Server to store transactional data. The book is especially useful to those wanting to learn the latest database design features in SQL Server 2019 (features that include graph objects, in-memory OLTP, temporal data support, and more). Chapters on fundamental concepts, the language of database modeling, SQL implementation, and the normalization process lay a solid groundwork for readers who are just entering the field of database design. More advanced chapters serve the seasoned veteran by tackling the latest in physical implementation features that SQL Server has to offer. The book has been carefully revised to cover all the design-related features that are new in SQL Server 2019.

Real World SQL Server Administration with Perl Dec 24 2019 "SQL Server Administration with Perl" consists of a series of scenarios covering a wide range of SQL Server administrative topics. These are real-world scenarios that you hear DBAs discussing on the SQL Server forums and newsgroups-scenarios that DBAs run into in their day-to-day development or production environments. Readers will walk away from this book with two things: a DBA toolkit with well

over 150 Perl scripts and problem-solving techniques they can apply to create even more tools for attacking other SQL Server administrative problems.

SharePoint 2007: The Definitive Guide Sep 20 2019 For any organization that wants to use Windows SharePoint Services to share and collaborate on Microsoft Office documents, this book shows administrators of all levels how to get up and running with this powerful and popular set of collaboration tools. Microsoft Windows SharePoint Services technology in Office 2007 is an integrated set of services designed to connect people, information, processes, and systems both within and beyond the organizational firewall. SharePoint 2007: The Definitive Guide provides a detailed discussion of all Sharepoint features, applications and extensions. You learn how to build Sharepoint sites and site collections, along with ways to administrate, secure, and extend Sharepoint. This book teaches you how to: Get up to speed on SharePoint, including ways to create lists, libraries, discussions and surveys Integrate email, use web parts, track changes with RSS, and use database reporting services Customize your personal site, create sites and areas, and organize site collections Integrate with Office applications, including Excel, Word, Outlook, Picture Manager, and InfoPath Install, deploy, maintain and secure SharePoint Brand a portal, using your corporate style sheet, designing templates, and building site definitions Extend SitePoint, such as creating client side and server side web parts, using the SharePoint class library and SharePoint web services Each chapter starts with a "guide" that lets you know what it covers before you dive in. The book also features a detailed reference section that includes information on compatibility, command line utilities, services, and CSS styles. Why wait? Get a hold of SharePoint 2007: The Definitive Guide today!

Beginning T-SQL Sep 13 2021 Beginning T-SQL is a performance-oriented introduction to the T-SQL language underlying the Microsoft SQL Server database engine. T-SQL is essential in writing SQL statements to get data into and out of a database. T-SQL is the foundation for business logic embedded in the database in the form of stored procedures and functions. Beginning T-SQL starts you on the path to mastering T-SQL, with an emphasis on best-practices and sound coding techniques leading to excellent performance. This new edition is updated to cover the essential features of T-SQL found in SQL Server 2014, 2012, and 2008. Beginning T-SQL begins with an introduction to databases, normalization, and to SQL Server Management Studio. Attention is given to Azure SQL Database and how to connect to remote databases in the cloud. Each subsequent chapter teaches an aspect of T-SQL, building on the skills learned in previous chapters. Exercises in most chapters provide an opportunity for the hands-on practice that leads to true learning and distinguishes the competent professional. Important techniques such as windowing functions are covered to help write fast executing queries that solve real business problems. A stand-out feature in this book is that most chapters end with a "Thinking About Performance" section. These sections cover aspects of query performance relative to the content just presented. They'll help you avoid beginner mistakes by knowing about and thinking about performance from Day 1. Imparts best practices for writing T-SQL Helps you avoid common errors Shows how to write scalable code for good performance What you'll learn Grasp the fundamentals of relational theory, upon which T-SQL is based Write accurate queries that are scalable and perform well Combine set-based and procedural processing, obtaining the best from both worlds Embed business logic in your database through stored procedures and functions Simplify your work with new and advanced features, such as common table expressions and windowing functions Enhance performance by knowing when to apply features such as temporary tables, and when not to Who this book is for Beginning T-SQL is for developers and database administrators with little to no T-SQL experience who will be writing database applications and queries against SQL Server databases. Table of Contents 1. Getting Started 2. Exploring Database Concepts 3. Writing Simple SELECT Queries 4. Using Built-In Functions and Expressions 5. Joining Tables 6. Building on Subqueries and Unions 7. Grouping and Summarizing Data 8. Writing Window Functions 9. Advanced WHERE Clauses 10. Query Techniques 11. Manipulating Data 12. Managing Transactions 13. Learning Procedural T-SQL 14. Moving Logic to the Database 15. Working with XML 16. Working with Data Types 17. Writing Advanced Queries 18. Where to Next?

Java Database Best Practices May 21 2022 Enterprise applications are about data-whether it is information about a product, the details of a user's credit card, or the color that customers prefer for their auto purchases. And as the importance of data has grown, so has the complexity of accessing that data. Java programmers now must choose between an alphabet soup of APIS and technologies - EJB, JDO, JDBC, SQL, RDBMS, OOIDMBS, and more on the horizon. Until now, developers have been left on their own to determine which model best suits their application, and how best to use their chosen API. Java Database Best Practices rescues developers from having to wade through books on each of the various APIS before they figure out which method to use! This comprehensive guide introduces each of the dominant APIs (Enterprise JavaBeans, Java Data Objects, the Java Database Connectivity API (JDBC) as well as other, lesser-known options), explores the methodology and design components that use those APIS, and then offers practices most appropriate for different types and makes of databases, as well as different types of applications. Java Database Best Practices also examines database design, from table and database architecture to normalization, and offers a number of best practices for handling these tasks. You'll learn how to move through the various forms of normalization, understand when to denormalize, and even get detailed instructions on optimizing your SQL queries to make the best use of your database structure. Through it all, this book focuses on practical application of these techniques, giving you information that can immediately be applied to your own enterprise projects.

SQL Design Patterns Mar 19 2022 This indispensable SQL reference book is the first of its kind to leverage the benefits of design patterns to relational database SQL queries; all common SQL structures and design patterns are clearly categorized and described. Emphasizing the theoretical foundation for almost every type of SQL query problem, accompanying figures are included to help visualize the problem. Because SQL is a declarative language there are many ways to write any SQL query and professional database programmers must understand the correct way to write SQL for complicated database queries, and managers must institute formal SQL coding standards to improve productivity and maintainability. The SQL design patterns in this resource greatly improve the quality and productivity of systems development projects by forming a "best practices" foundation for all relational database queries.

ADO.NET Examples and Best Practices for C# Programmers Aug 24 2022 Best-selling author Bill Vaughn gives practical advice that VB developers can use immediately to make their data access code faster and easier to write and understand.

Learn T-SQL From Scratch May 29 2020 Advance your career as an SQL Server developer and DBA KEY FEATURES ? Cutting-edge coverage from community experts to learn T-SQL programming. ? Detailed explanation of concepts and techniques for easy understanding. ? Numerous practical demonstrations of T-SQL querying and programming applications. DESCRIPTION This book will teach you the fundamentals of SQL, SQL Server, databases, and how to write queries and programs using T-SQL. After reading this book, you will be able to create, modify, and delete databases, tables, and indexes. You can practice querying the data and running complex analytics on it. You will also be able to add, delete, and modify procedures, user-defined functions, triggers, and views. The journey of learning T-SQL with this book begins with an understanding of SQL and database fundamentals. You'll explore the SQL Server Management Studio (SSMS) used for developing and managing SQL Server databases. You'll then learn how to use DDL statements to create, modify and delete tables and indexes. Gradually, you'll be able to query in T-SQL using DML statements, joins, and various built-in functions. Successively, you'll learn XML and JSON data processing, and by the time you'll reach the end of this book, you will learn to program in SQL Server and various strategies to deploy your databases and programs. Throughout the book, you'll learn through simple examples and straightforward explanations, diagrams, and numerous real-world use-cases. WHAT YOU WILL LEARN ? Concise understanding of relational databases and the SQL Server. ? Learn how to create database tables and indexes using T-SQL. ? Learn to add, modify, and delete records. ? Practice how to slice and dice data by running smart T-SQL queries. ? Perform advanced analytical analysis using various functions. ? Discover Error Handling and Transaction Management. ? Administer XML and JSON handling with T-SQL. ? Practice different deployment modes for T-SQL objects. WHO THIS BOOK IS FOR If you want to know how to design, develop, and maintain SQL Server databases and run sophisticated T-SQL queries without much hassle, this book is for you. Readers with a basic understanding of programming would have an advantage. TABLE OF CONTENTS 1. Getting started 2. Tables 3. Index 4. DML 5. Built-In Functions - Part 1 6. Join, Apply, and Subquery 7. Built-In Functions - Part 2 8. Dealing with XML and JSON 9. Variables and Control Flow Statements 10. Temporary Tables, CTE, and MERGE Statement 11. Error Handling and Transaction Management 12. Data Conversion, Cross Database, and Cross-Server Data Access 13. Programmability 14. Deployment