

PostgreSQL: Up And Running: A Practical Guide To The Advanced Open Source Database

This book starts from where PostgreSQL for DBA volume 1 left by adding more topics to the previous book and covering what were left untold.Organised in parts the book covers how to manage and install PostgreSQL, the physical and logical layer along with the performance tuning, the maintenance and the HA/DR. Last but not least there is a part dedicated to upgrading the clusters for the minor and the major versions.The book covers PostgreSQL version 12 compiled from source and running on Slackware GNU Linux 14.2.The install procedure for the packages covers either DEB and RPM based distributions.The DEB the operating system is Devuan GNU Linux 2.0 and for the RPM the operating system is CentOS 7.

Thinking of migrating to PostgreSQL? This clear, fast-paced introduction helps you understand and use this open source database system. Not only will you learn about the enterprise class features in versions 9.2, 9.3, and 9.4, you'll also discover that PostgreSQL is more than a database system—it's also an impressive application platform. With examples throughout, this book shows you how to achieve tasks that are difficult or impossible in other databases. This second edition covers LATERAL queries, augmented JSON support, materialized views, and other key topics. If you're a current PostgreSQL user, you'll pick up gems you may not have known about: Learn basic administration tasks such as role management, database creation, backup, and restore Apply the psql command-line utility and the pgAdmin graphical administration tool Explore PostgreSQL tables, constraints, and indexes Learn powerful SQL constructs not generally found in other databases Use several different languages to write database functions Tune your queries to run as fast as your hardware will allow Query external and variegated data sources with foreign data wrappers Learn how to use built-in replication filters to replicate data PostgreSQL: Up and Running©O'Reilly Media, Inc.

Practical SQL is an approachable and fast-paced guide to SQL (Structured Query Language), the standard programming language for defining, organizing, and exploring data in relational databases. The book focuses on using SQL to find the story your data tells, with the popular open-source database PostgreSQL and the pgAdmin interface as its primary tools. You'll first cover the fundamentals of databases and the SQL language, then build skills by analyzing data from the U.S. Census and other federal and state government agencies. With exercises and real-world examples in each chapter, this book will teach even those who have never programmed before all the tools necessary to build powerful databases and access information quickly and efficiently. You'll learn how to: Create databases and related tables using your own data - Define the right data types for your information - Aggregate, sort, and filter data to find patterns - Use basic math and advanced statistical functions - Identify errors in data and clean them up - Import and export data using delimited text files - Write queries for geographic information systems (GIS) - Create advanced queries and automate tasks Learning SQL doesn't have to be dry and complicated. Practical SQL delivers clear examples with an easy-to-follow approach to teach you the tools you need to build and manage your own databases. This book uses PostgreSQL, but the SQL syntax is applicable to many database applications, including Microsoft SQL Server and MySQL.

"A practical guide to the Advanced Open Source Database"—Cover.

Best Practices for Performance and Security

Expert techniques to build scalable, reliable, and fault-tolerant database applications, 2nd Edition

Mastering PostgreSQL 11

Programming Collective Intelligence

Learning PostgreSQL

Mastering PostgreSQL In Application Development is intended for developers working on applications that use a database server. The book addresses specifically the PostgreSQL RDBMS: It actually is the world's most advanced Open Source database as said in its slogan on the official website. By the end of this book, you will know why, and agree!

Master PostgreSQL 12 features such as advanced indexing, high availability, monitoring, and much more to efficiently manage and maintain your database Key Features Grasp advanced PostgreSQL 12 concepts with real-world examples and sample datasets Explore query parallelism, data replication, database administration, and more Extend PostgreSQL functionalities to suit your organization's needs with minimal effort Book Description Thanks to its reliability, robustness, and high performance, PostgreSQL has become the most advanced open source database on the market. This third edition of Mastering PostgreSQL helps you build dynamic database solutions for enterprise applications using the latest release of PostgreSQL, which enables database analysts to design both physical and technical aspects of system architecture with ease. Starting with an introduction to the newly released features in PostgreSQL 12, this book will help you build efficient and fault-tolerant PostgreSQL applications. You'll thoroughly examine the advanced features of PostgreSQL, including logical replication, database clusters, performance tuning, monitoring, and user management. You'll also work with the PostgreSQL optimizer, configure PostgreSQL for high speed, and understand how to move from Oracle to PostgreSQL. As you progress through the chapters, you'll cover transactions, locking, indexes, and how to optimize queries for improved performance. Additionally, you'll learn how to manage network security and explore backups and replications while understanding useful PostgreSQL extensions to help you in optimizing the performance of large databases. By the end of this PostgreSQL book, you'll be able to get the most out of your database by implementing advanced administrative tasks effortlessly. What you will learn Understand the advanced SQL functions in PostgreSQL 12 Use indexing features in PostgreSQL to fine-tune the performance of queries Work with stored procedures and manage backup and recovery Master replication and failover techniques to reduce data loss Replicate PostgreSQL database systems to create backups and to scale your database Manage and improve the security of your server to protect your data Troubleshoot your PostgreSQL instance for solutions to common and not-so-common problems Who this book is for This book is for PostgreSQL developers and administrators and database professionals who want to implement advanced functionalities and master complex administrative tasks with PostgreSQL 12. Prior exposure to PostgreSQL as well familiarity with the basics of database administration is expected.

Want to tap the power behind search rankings, product recommendations, social bookmarking, and online matchmaking? This fascinating book demonstrates how you can build Web 2.0 applications to mine the enormous amount of data created by people on the Internet. With the sophisticated algorithms in this book, you can write smart programs to access interesting datasets from other web sites, collect data from users of your own applications, and analyze and understand the data once you've found it. Program Collective Intelligence takes you into the world of machine learning and statistics, and explains how to draw conclusions about user experience, marketing, personal tastes, and human behavior in general -- all from information that you and others collect every day. Each algorithm is described clearly and concisely with code that can immediately be used on your web site, blog, Wiki, or specialized application. This book explains Collaborative filtering techniques that enable online retailers to recommend products or media, pick up gems you may not have known about, Learn basic administration tasks such as role management, database creation, backup, and restore Apply the psql command-line utility and the pgAdmin graphical administration tool Explore PostgreSQL tables, constraints, and indexes Learn powerful SQL constructs not generally found in other databases Use several different languages to write database functions Tune your queries to run as fast as your hardware will allow Query external and variegated data sources with foreign data wrappers Learn how to use built-in replication to replicate data Up and Running

From Novice to Professional Infrastructure and Application Performance Monitoring

PostgreSQL Essential Reference

Beginning Databases with PostgreSQL

PostgreSQL 12

Filled with practical, step-by-step instructions and clear explanations for the most important and useful tasks. This hands-on guide provides a quick and easy way to back up and restore your database using PostgreSQL.Written for database administrators who want to create backups of their critical enterprise data and efficiently restore it using PostgreSQL.PostgreSQL offers a comprehensive set of replication related features. Unleashing the power of PostgreSQL provides you with countless opportunities and a competitive advantage over other database systems. This book will guide you through the most important concepts of PostgreSQL replication. It contains all the information you need to design and operate replicated setups. Beginning by giving you an understanding of replication concepts, the PostgreSQL transaction log, and Point-in-Time Recovery, we gradually move on to setting up asynchronous and synchronous replication. Next up, you will learn to monitor a PostgreSQL cluster setup, deal with monitoring tools, and then move on to understanding Linux High Availability. Further, we explore widely-used tools such as Slony, SkyTools, Postgres-XC, and walbouncer, and set up PL/Proxy. Finally, you'll get acquainted with the new technology of BDR, which allows bidirectional replication in PostgreSQL. Expert advice by a highly respected author within the PostgreSQL user community, this book provides detailed, useable information in the popular Essential Reference format. Includes tables within each chapter that organize the material both alphabetically and by task so that readers will have two options for finding the information. Master the capabilities of PostgreSQL 11 to efficiently manage and maintain your database Key FeaturesMaster advanced concepts of PostgreSQL 11 with real-world datasets and examplesExplore query parallelism, data replication, and database performance while working with larger datasetsExtend the functionalities of your PostgreSQL instance to suit your organization's needs with minimal effortBook Description This second edition of Mastering PostgreSQL 11 helps you build dynamic database solutions for enterprise applications using the latest release of PostgreSQL, which enables database analysts to design both the physical and technical aspects of the system architecture with ease. This book begins with an introduction to the newly released features in PostgreSQL 11 to help you build efficient and fault-tolerant PostgreSQL applications. You'll examine all of the advanced aspects of PostgreSQL in detail, including logical replication, database clusters, performance tuning, monitoring, and user management. You will also work with the PostgreSQL optimizer, configuring PostgreSQL for high speed, and see how to move from Oracle to PostgreSQL. As you progress through the chapters, you will cover transactions, locking, indexes, and optimizing queries to improve performance. Additionally, you'll learn to manage network security and explore backups and replications, while understanding the useful extensions of PostgreSQL so that you can optimize the speed and performance of large databases. By the end of this book, you will be able to use your database to its utmost capacity by implementing advanced administrative tasks with ease. What you will learnGet to grips with advanced PostgreSQL 11 features and SQL functionsMake use of the indexing features in PostgreSQL and fine-tune the performance of queriesMaster replication and failover techniquesTroubleshoot your PostgreSQL instance for solutions to common and not-so-common problemsPerform database migration from MySQL and Oracle to PostgreSQL with easeWho this book is for This book is for data and database professionals wanting to implement advanced functionalities and master complex administrative tasks with PostgreSQL 11. Prior experience of database administration with PostgreSQL database will aid in understanding the concepts covered in this book.

Arguably the most capable of all the open source databases, PostgreSQL is an object-relational database management system first developed in 1977 by the University of California at Berkeley. In spite of its long history, this robust database suffers from a lack of easy-to-use documentation. Practical PostgreSQL fills that void with a fast-paced guide to installation, configuration, and usage. This comprehensive new volume shows you how to compile PostgreSQL from source, create a database, and configure PostgreSQL to accept client-server connections. It also covers the many advanced features, such as transactions, versioning, replication, and referential integrity that enable developers and DBAs to use PostgreSQL for serious business applications. The thorough introduction to PostgreSQL's PL/pgSQL programming language explains how you can use this very useful but under-documented feature to develop stored procedures and triggers. The book includes a complete command reference, and database administrators will appreciate the chapters on user management, database maintenance, and backup & recovery. With Practical PostgreSQL, you will discover quickly why this open source database is such a great open source alternative to proprietary products from Oracle, IBM, and Microsoft.

PostgreSQL Server Programming - Second Edition

PostgreSQL 11 Server Side Programming Quick Start Guide

A Data Science Mystery Featuring Postgreql, Cassini and Enceladus

Learn PostgreSQL

PostgreSQL 11 Administration Cookbook

Build, administer, and maintain database applications efficiently with PostgreSQL 13, 4th Edition

Obtain all the skills you need to configure and manage a PostgreSQL database. In this book you will begin by installing and configuring PostgreSQL on a server by focusing on system-level parameter settings before installation. You will also look at key post-installation steps to avoid issues in the future. The basic configuration of PostgreSQL is tuned for compatibility rather than performance. Keeping this in mind, you will fine-tune your PostgreSQL parameters based on your environment and application behavior. You will then get tips to improve database monitoring and maintenance followed by database security for handling sensitive data in PostgreSQL. Every system containing valuable data needs to be backed-up regularly. PostgreSQL follows a simple back-up procedure and provides fundamental approaches to back up your data. You will go through these approaches and learn how to restore your environment. Running your application with limited resources can be tricky. To achieve this you will implement a pooling mechanism for your PostgreSQL instances to connect to other databases. Finally, you will take a look at some basic errors faced while working with PostgreSQL and learn to resolve them in the quickest manner. What You Will Learn Configure PostgreSQL for performance Monitor and maintain PostgreSQL instances Implement a backup strategy for your data Resolve errors faced while using PostgreSQL Who This Book Is For Readers with basic knowledge of PostgreSQL who wish to implement key solutions based on their environment. This book is for moderate to advanced PostgreSQL database professionals who wish to extend PostgreSQL, utilizing the most updated features of PostgreSQL 9.4. For a better understanding of this book, familiarity with writing SQL, a basic idea of query tuning, and some coding experience in your preferred language is expected. The open source PostgreSQL database is soaring in popularity, as thousands of database and web professionals discover its powerful features, transaction support, performance, and industrial-strength scalability. In this book, a founding member of the PostgreSQL development team introduces everything you need to know to succeed with PostgreSQL, from basic SQL commands through database administration and optimization. PostgreSQL assumes no previous database expertise: it establishes a firm foundation of basic concepts and commands before turning to PostgreSQL's advanced, innovative capabilities. Bruce Momjian walks readers step-by-step from their first database queries through the complex queries needed to solve real-world problems. He presents proper query syntax, then explains the value and use of each key SQL commands in working applications. Learn to manipulate and update databases, customize queries, work with SQL aggregates, use joins, combine SELECTs with subqueries, work with triggers and transactions, import and export data, use PostgreSQL query tools, and more. Discover PostgreSQL techniques for server-side programming and multi-user control, and master PostgreSQL's interfaces to C, C++, ODBC, JDBC, Perl, and Tcl/Tk. You'll also find detailed coverage of PostgreSQL administration, including backups, troubleshooting, and access configuration.

"PostgreSQL Developer's Handbook" provides a complete overview of the PostgreSQL database server and extensive coverage of its core features, including object orientation, PL/SQL, and the most important programming interfaces. The authors introduce the reader to the language and syntax of PostgreSQL and then move quickly into sophisticated programming topics. Create, develop and manage relational databases in real world applications using PostgreSQL About This Book Learn about the PostgreSQL development life cycle including its testing and refactoring Build productive database solutions and use them in Java applications A comprehensive guide to learn about SQL, PostgreSQL procedural language and PL/pgSQL Who This Book Is For If you are a student, database developer or an administrator, interested in developing and maintaining a PostgreSQL database, then this book is for you. No knowledge of database programming or administration is necessary. What You Will Learn Learn concepts of data modelling and relation algebra Install and set up PostgreSQL database server and client software Implement data structures in PostgreSQL Manipulate data in the database using SQL Implement data processing logic in the database with stored procedures, triggers and views Test database solutions and assess the performance Integrate database with Java applications Detailed knowledge of the main PostgreSQL building objects, most used extensions Practice database development life cycle including analysis, modelling, (documentation), testing, bug fixes and refactoring In Detail PostgreSQL is one of the most powerful and easy to use database management systems. It has strong support from the community and is being actively developed with a new release every year. PostgreSQL supports the most advanced features included in SQL standards. Also it provides NoSQL capabilities, and very rich data types and extensions. All that makes PostgreSQL a very attractive solution in various kinds of software systems. The book starts with the introduction of relational databases with PostgreSQL. It then moves on to covering data definition language (DDL) with emphasis on PostgreSQL and common DDL commands supported by ANSI SQL. You will then learn the data manipulation language (DML), and advanced topics like locking and multi version concurrency control (MVCC). This will give you a very robust background to tune and troubleshoot your application. The book then covers the implementation of data models in the database such as creating tables, setting up integrity constraints, building indexes, defining views and other schema objects. Next, it will give you an overview about the NoSQL capabilities of PostgreSQL along with Hstore, XML, Json and arrays. Finally by the end of the book, you'll learn to use the JDBC driver and manipulate data objects in the Hibernate framework. Style and approach An easy-to-follow guide to learn programming build applications with PostgreSQL, and manage a PostgreSQL database instance.

PostgreSQL 10 Administration Cookbook

Over 175 recipes for database administrators to manage enterprise databases

Up and Running: A Practical Introduction to the Advanced Open Source

Mastering PostgreSQL in Application Development

PostgreSQL Configuration

Over 165 effective recipes for database management and maintenance in PostgreSQL 10

This book is for developers and data architects who have some exposure to databases. It is assumed that you understand the basic concepts of tables and common database objects, including privileges and security. A practical guide to administer, monitor and replicate your PostgreSQL 11 database Key FeaturesStudy and apply the newly introduced features in PostgreSQL 11Tackle any problem in PostgreSQL 11 administration and managementCatch up on expert techniques for monitoring, fine-tuning, and securing your databaseBook Description PostgreSQL is a powerful, open source database management system with an enviable reputation for high performance and stability. With many new features in its arsenal, PostgreSQL 11 allows you to scale up your PostgreSQL infrastructure. This book takes a step-by-step, recipe-based approach to effective PostgreSQL administration. The book will introduce you to new features such as logical replication, native table partitioning, additional query parallelism, and much more to help you to understand and control, crash recovery and plan backups. You will learn how to tackle a variety of problems and pain points for any database administrator such as creating tables, managing views, improving performance, and securing your database. As you make steady progress, the book will draw attention to important topics such as monitoring roles, backup, and recovery of your PostgreSQL 11 database to help you understand roles and produce a summary of log files, ensuring high availability, concurrency, and replication. By the end of this book, you will have the necessary knowledge to manage your PostgreSQL 11 database efficiently. What you will learnTroubleshoot open source PostgreSQL version 11 on various platformsDeploy best practices for planning and designing live databasesSelect and implement robust backup and recovery techniques in PostgreSQL 11Use pgAdmin or OmmIDB to perform database administrator (DBA) tasksAdopt efficient replication and high availability techniques in PostgreSQLImprove the performance of your PostgreSQL solutionWho this book is for This book is designed for database administrators, data architects, database developers, or anyone with an interest in planning and running live production databases using PostgreSQL 11. It is also ideal if you're looking for hands-on solutions to any problem associated with PostgreSQL 11 administration. Some experience with handling PostgreSQL databases will be beneficial. Explore expert techniques such as advanced indexing and high availability to build scalable, reliable, and fault-tolerant database applications using PostgreSQL 13 Key FeaturesMaster advanced PostgreSQL 13 concepts with the help of real-world datasets and examplesLeverage PostgreSQL's indexing features to fine-tune the performance of your queriesExtend PostgreSQL's functionalities to suit your organization's needs with minimal effortBook Description Thanks to its reliability, robustness, and high performance, PostgreSQL has become one of the most advanced open source databases on the market. This updated fourth edition will help you understand PostgreSQL administration and how to build dynamic database solutions for enterprise apps with the latest release of PostgreSQL, including designing both physical and technical aspects of the system architecture with ease. Starting with an introduction to the new features in PostgreSQL 13, this book will guide you in building efficient and fault-tolerant PostgreSQL apps. You'll explore advanced PostgreSQL features, such as logical replication, database clusters, performance tuning, advanced indexing, monitoring, and user management, to manage and maintain your database. You'll then work with the PostgreSQL optimizer, configure PostgreSQL for high speed, and move from Oracle to PostgreSQL. The book also covers transactions, locking, and indexes, and shows you how to improve performance with query optimization. You'll also focus on how to manage network security and work with backups and replication while exploring useful PostgreSQL extensions that optimize the performance of large databases. By the end of this PostgreSQL book, you'll be able to get the most out of your database by executing advanced administrative tasks. What you will learnGet well versed with advanced SQL functions in PostgreSQL 13Get to grips with administrative tasks such as log file management and monitoringWork with stored procedures and manage backup and recoveryEmploy replication and failover techniques to reduce data lossPerform database migration from Oracle to PostgreSQL with easeReplicate PostgreSQL database systems to create backups and scale your databaseManage and improve server security to protect your dataTroubleshoot your PostgreSQL instance to find solutions to common and not-so-common problemsWho this book is for This database administration book is for PostgreSQL developers and database administrators and professionals who want to implement advanced functionalities and master complex administrative tasks with PostgreSQL 13. Prior experience in PostgreSQL and familiarity with the basics of database administration will assist with understanding key concepts covered in the book.

Write optimized queries. This book helps you write queries that perform fast and deliver results on time. You will learn that query optimization is not a dark art practiced by a small, secretive cabal of sorcerers. Any motivated professional can learn to write efficient queries from the get-go and capably optimize existing queries. You will learn to look at the process of writing a query from the database engine's point of view, and know how to think like the database optimizer. The book begins with a discussion of what a performant system is and progresses to measuring performance and setting performance goals. It introduces different classes of queries and optimization techniques suitable to each, such as the use of indexes and specific join algorithms. You will learn to read and understand query execution plans along with techniques for influencing those plans for better performance. The book also covers advanced topics such as the use of functions and procedures, dynamic SQL, and generated queries. All of these techniques are then used together to produce performant applications, avoiding the pitfalls of object-relational mappers. What You Will Learn Identify optimization goals in OLTP and OLAP systems Read and understand PostgreSQL execution plans Distinguish between short queries and long queries Choose the right optimization technique for each query type Identify indexes that will improve query performance Optimize full table scans Avoid the pitfalls of object-relational mapping systems Optimize the entire application rather than just database queries Who This Book Is For IT professionals working in PostgreSQL who want to develop performant and scalable applications, anyone whose job title contains the words "database developer" or "database administrator" or who is a backend developer charged with programming database calls, and system architects involved in the overall design of application systems running against a PostgreSQL database

PostGIS in Action, Third Edition shows you how to solve real-world geodata problems. You'll go beyond basic mapping, and explore custom functions for your applications. Summary In PostGIS in Action, Third Edition you will learn: An introduction to spatial databases Geometry, geography, raster, and topology spatial types, functions, and queries Applying PostGIS to real-world problems Extending PostGIS to web and desktop applications Querying data from external sources using PostgreSQL Foreign Data Wrappers Optimizing queries for maximum speed Simplifying geometries for greater efficiency PostGIS in Action, Third Edition teaches readers of all levels to write spatial queries for PostgreSQL. You'll start by exploring vector-, raster-, and topology-based GIS before quickly progressing to analyzing, viewing, and mapping data. This fully updated third edition covers key changes in PostGIS 3.1 and PostgreSQL 13, including parallelization support, partitioned tables, and new JSON functions that help in creating web mapping applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology PostGIS is a spatial database extender for PostgreSQL. It offers the features and firepower you need to take on nearly any geodata task. PostGIS lets you create location-aware queries with a few lines of SQL code, then build the backend for mapping, raster analysis, or routing application with minimal effort. About the book PostGIS in Action, Third Edition shows you how to solve real-world geodata problems. You'll go beyond basic mapping, and explore custom functions for your applications. Inside this fully updated edition, you'll find coverage of new PostGIS features such as PostGIS Window functions, parallelization of queries, and outputting data for applications using JSON and Vector Tile functions. What's inside Fully revised for PostGIS version 3.1 and PostgreSQL 13 Optimize queries for maximum speed Simplify geometries for greater efficiency Extend PostGIS to web and desktop applications About the reader For readers familiar with relational databases and basic SQL. No prior geodata or GIS experience required. About the author Regina Obe and Leo Hsu are database consultants and authors. Regina is a member of the PostGIS core development team and the Project Steering Committee. Table of Contents PART 1 INTRODUCTION TO POSTGIS 1 What is a spatial database? 2 Spatial data types 3 Spatial reference systems 4 Working with real data 5 Using PostGIS on the desktop 6 Geometry and geography functions 7 Raster functions 8 Spatial relationships PART 2 PUTTING POSTGIS TO WORK 9 Proximity analysis 10 PostGIS TIGER geocoder 11 Geometry and geography processing 12 Raster processing 13 Building and using topologies 14 Organizing spatial data 15 Query performance tuning PART 3 USING POSTGIS WITH OTHER TOOLS 16 Extending PostGIS with pgRouting and procedural languages 17 Using PostGIS in web applications

PostgreSQL Development Essentials Instant PostgreSQL Backup and Restore How-to PostgreSQL Query Optimization Introduction and Concepts PostGIS in Action, Third Edition Ansible: Up and Running A practical guide to administer, monitor and replicate your PostgreSQL 10 database Key Features Get to grips with the capabilities of PostgreSQL 10 to administer your database more efficiently Monitor, tune, secure and protect your database for optimal performance A step-by-step, recipe-based guide to help you tackle any problem in PostgreSQL 10 administration with ease Book Description PostgreSQL is a powerful, open source database management system with an enviable reputation for high performance and stability. With many new features in its arsenal, PostgreSQL 10 allows users to scale up their PostgreSQL infrastructure. This book takes a step-by-step, recipe-based approach to effective PostgreSQL administration. Throughout this book, you will be introduced to these new features such as logical replication, native table partitioning, additional query parallelism, and much more. You will learn how to tackle a variety of problems that are basically the pain points for any database administrator - from creating tables to managing views, from improving performance to securing your database. More importantly, the book pays special attention to topics such as monitoring roles, backup, and recovery of your PostgreSQL 10 database, ensuring high availability, concurrency, and replication. By the end of this book, you will know everything you need to know to be the go-to PostgreSQL expert in your organization. What you will learn Get to grips with the newly released PostgreSQL 10 features to improve database performance and reliability Manage open source PostgreSQL versions 10 on various platforms. Explore best practices for planning and designing live databases Select and implement robust backup and recovery techniques in PostgreSQL 10 Explore concise and clear guidance on replication and high availability Discover advanced technical tips for experienced users Who this book is for This book is for database administrators, data architects, developers, or anyone with an interest in planning for, or running, live production databases using PostgreSQL. It is suited to those looking for hands-on solutions to any problem associated with PostgreSQL administration.

**The most updated PostgreSQL book on the market, covering version 8.0 *Highlights the most popular PostgreSQL APIs, including C, Perl, PHP, and Java *This is two books in one; it simultaneously covers key relational database design principles, while teaching PostgreSQL. Thinking of migrating to PostgreSQL? This updated guide helps you quickly understand and use the 9.3 release of this open source database system. You'll not only learn about its unique enterprise-class features, but also discover that PostgreSQL is more than just a database system—it's also an impressive application platform. Using numerous examples, this book shows you how to achieve tasks that are difficult or impossible in other databases. The second edition covers LATERAL queries, augmented JSON support, materialized views, and other key topics. If you're an existing PostgreSQL user, you'll pick up gems you may have missed along the way. Learn basic administration tasks, such as role management, database creation, backup, and restore Apply the psql command-line utility and the pgAdmin graphical administration tool Explore PostgreSQL tables, constraints, and indexes Learn powerful SQL constructs not generally found in other databases Use several different languages to write database functions Tune your queries to run as fast as your hardware will allow Query external and variegated data sources with Foreign Data Wrappers Learn how to replicate data, using built-in replication filters to replicate data Leverage the power of PostgreSQL 11 to build powerful database and data warehousing applications Key FeaturesMonitor, secure, and fine-tune your PostgreSQL 11 databaseLearn client-side and server-side programming using SQL and PL/pgSQLDiscover tips on implementing efficient database solutionsBook Description PostgreSQL is one of the most popular open source database management systems in the world, and it supports advanced features included in SQL standards. This book will familiarize you with the latest features in PostgreSQL 11, and get you up and running with building efficient PostgreSQL applications. You'll begin by covering the concepts of relational databases and their core principles. You'll explore the Data Definition Language (DDL) and commonly used DDL commands supported by ANSI SQL. You'll also learn how to create tables, define integrity constraints, build indexes, and set up views and other schema objects. As you advance, you'll come to understand Data Manipulation Language (DML) and server-side programming capabilities using PL/pgSQL, giving you a robust background to develop, test, and troubleshoot your database application. This book will guide you in exploring NoSQL capabilities and connecting to your database to manipulate data objects. You'll get to grips with using data warehousing in analytical solutions and reports, and scaling the database for high availability and performance. By the end of this book, you'll have gained a thorough understanding of PostgreSQL 11 and developed the necessary skills to build efficient database solutions. What you will learnUnderstand the basics of relational databases, relational algebra, and data modelingInstall a PostgreSQL server, create a database, and implement your data modelCreate tables and views, define indexes and stored procedures, and implement triggersMake use of advanced data types such as Arrays, hstore, and JSONBConnect your Python applications to PostgreSQL and work with data efficientlyIdentify bottlenecks to enhance reliability and performance of database applicationsWho this book is for This book is for you if you're interested in learning about PostgreSQL from scratch. Those looking to build solid database or data warehousing applications or wanting to get up to speed with the latest features of PostgreSQL 11 will also find this book useful. No prior knowledge of database programming or administration is required to get started.*

Build, deploy, and manage applications in the cloud with Heroku, one of the first PaaS platforms to offer sophisticated hosting and development services. With this book, you'll learn how to use Heroku's Cedar runtime stack, a polyglot platform with native support for several languages and frameworks, including Ruby (Rails), Java (Spring), Node.js, and Python (Django). Get started with the Heroku Command Line Interface and learn day-to-day best practices for hosting your applications on the platform. You'll learn everything from basic concepts to advanced topics such as Buildpacks so you can start running in the cloud right away. Use pre-baked code examples and instances in Java and Ruby Learn about Heroku's simple application deployment and strong environment resilience Understand how applications should be built for modern day cloud hosting, using the 12-factor principle Automating Configuration Management and Deployment the Easy Way A Practical Guide PostgreSQL 10 High Performance Building Smart Web 2.0 Applications PgRouting PostGIS in Action

What is pgRouting? It's a PostgreSQL extension for developing network routing applications and doing graph analysis. This book will give you all the tools and information you need to get started with pgRouting, as well as complete code examples and even how to deploy your project to the web. Leverage the power of PostgreSQL 10 to design, administer and maintain a high-performance database solution Key Features Obtain optimal PostgreSQL 10 database performance, ranging from initial design to routine maintenance Fine tune the performance of your queries and avoid the common pitfalls that can slow your system down Contains tips and tricks on scaling successful database installations, and ensuring a highly available PostgreSQL solution Book Description PostgreSQL database servers have a common set of problems that they encounter as their usage gets heavier and requirements get more demanding. Peek into the future of your PostgreSQL 10 database's problems today. Know the warning signs to look for and how to avoid the most common issues before they even happen. Surprisingly, most PostgreSQL database applications evolve in the same

way--choose the right hardware, tune the operating system and server memory use, optimize queries against the database and CPUs with the right indexes, and monitor every layer, from hardware to queries, using tools from inside and outside PostgreSQL. Also, using monitoring insight, PostgreSQL database applications continuously rework the design and configuration. On reaching the limits of a single server, they break things up; connection pooling, caching, partitioning, replication, and parallel queries can all help handle increasing database workloads. By the end of this book, you will have all the knowledge you need to design, run, and manage your PostgreSQL solution while ensuring high performance and high availability What you will learn Learn best practices for scaling PostgreSQL 10 installations Discover the best hardware for developing high-performance PostgreSQL applications Benchmark your whole system - from hardware to application Learn by real examples how server parameters impact performance Discover PostgreSQL 10 features for partitioning and parallel query Monitor your server, both inside and outside the database Design and implement a good replication system on PostgreSQL 10 Who this book is for This book is designed for database administrators and PostgreSQL architects who already use or plan to exploit the features of PostgreSQL 10 to design and maintain a high-performance PostgreSQL database. A working knowledge of SQL, and some experience with PostgreSQL will be helpful in getting the most out of this book.

Among the many configuration management tools available, Ansible has some distinct advantages—It's minimal in nature, you don't need to install anything on your nodes, and it has an easy learning curve. This practical guide shows you how to be productive with this tool quickly, whether you're a developer deploying code to production or a system administrator looking for a better automation solution. Author Lorin Hochstein shows you how to write playbooks (Ansible's configuration management scripts), manage remote servers, and explore the tool's real power: built-in declarative modules. You'll discover that Ansible has the functionality you need and the simplicity you desire. Understand how Ansible differs from other configuration management systems Use the YAML file format to write your own playbooks Learn Ansible's support for variables and facts Work with a complete example to deploy a non-trivial application Use roles to simplify and reuse playbooks Make playbooks run faster with ssh multiplexing, pipelining, and parallelism Deploy applications to Amazon EC2 and other cloud platforms Use Ansible to create Docker images and deploy Docker containers

Starting an application is simple enough, whether you use migrations, a model-synchronizer or good old-fashioned hand-rolled SQL. A year from now, however, when your app has grown and you're trying to measure what's happened... the story can quickly change when data is overwhelming you and you need to make sense of what's been accumulating. Learning how PostgreSQL works is just one aspect of working with data. PostgreSQL is there to enhance, enable and extend what you do as a developer/DBA. And just like any tool in your toolbox, it can help you create crap, slice off some fingers, or help you be the superstar that you are.That's the perspective of A Curious Moon - data is the truth, data is your friend, data is your business. The tools you use (namely PostgreSQL) are simply there to safeguard your treasure and help you understand what it's telling you.But what does it mean to be "data-minded"? How do you even get started? These are good questions and ones I struggled with when outlining this book. I quickly realized that the only way you could truly understand the power and necessity of solid databae design was to live the life of a new DBA... thrown into the fire like we all were at some point...Meet Dee Yan, our fictional intern at Red:4 Aerospace. She's just been handed the keys to a massive set of data, straight from Saturn, and she has to load it up, evaluate it and then analyze it for a critical project. She knows that PostgreSQL exists... but that's about it.Much more than a tutorial, this book has a narrative element to it a bit like The Martian, where you get to know Dee and the problems she faces as a new developer/DBA... and how she solves them.The truth is in the data...

"PostGIS in Action" is the first book devoted entirely to PostGIS. It will help both new and experienced users write spatial queries to solve real-world problems. It also discusses the new features available in PostgreSQL 8.4 and provides tutorials.

PostgreSQL for DBA

The Ultimate Guide to Building Efficient Queries

A beginner's guide to building high-performance PostgreSQL database solutions, 3rd Edition

PostgreSQL Developer's Handbook

Effective database programming and interaction

Practical SQL

A comprehensive guide to building, managing, and securing scalable and reliable database and data warehousing applications using Postgres 12 and 13 Key FeaturesSet up your database cluster and monitor, secure, and fine-tune it for optimal performanceLearn the fundamentals of database management and implement client- and server-side programming using SQL and PL/pgSQLExplore useful tips to develop efficient PostgreSQL database solutions from scratchBook Description PostgreSQL is one of the fastest-growing open source object-relational database management systems (DBMS) in the world. As well as being easy to use, it's scalable and highly efficient. In this book, you'll explore PostgreSQL 12 and 13 and learn how to build database solutions using it. Complete with hands-on tutorials, this guide will teach you how to achieve the right database design required for a reliable environment. You'll learn how to install and configure a PostgreSQL server and even manage users and connections. The book then progresses to key concepts of relational databases, before taking you through the Data Definition Language (DDL) and commonly used DDL commands. To build on your skills, you'll understand how to interact with the live cluster, create database objects, and use tools to connect to the live cluster. You'll then get to grips with creating tables, building indexes, and designing your database schema. Later, you'll explore the Data Manipulation Language (DML) and server-side programming capabilities of PostgreSQL using PL/pgSQL, before learning how to monitor, test, and troubleshoot your database application to ensure high-performance and reliability. By the end of this book, you'll be well-versed with the Postgres database and be able to set up your own PostgreSQL instance and use it to build robust solutions. What you will learnUnderstand how users and connections are managed by running a PostgreSQL instanceInteract with transaction boundaries using server-side programmingIdentify bottlenecks to maintain your database efficientlyCreate and manage extensions to add new functionalities to your clusterChoose the best index type for each situationUse online tools to set up a memory configuration that will suit most databasesExplore how Postgres can be used in multi-instance environments to provide high-availability, redundancy, and scalabilityWho this book is for This Postgres book is for anyone interested in learning about the PostgreSQL database from scratch. Anyone looking to build robust data warehousing applications and scale the database for high-availability and performance using the latest features of PostgreSQL will also find this book useful. Although prior knowledge of PostgreSQL is not required, familiarity with databases is expected.

This updated and expanded second edition of the PostgreSQL: Up and Running: A Practical Introduction to the Advanced Open Source provides a user-friendly introduction to the subject Taking a clear structural framework, it guides the reader through the subject's core elements. A flowing writing style combines with the use of illustrations and diagrams throughout the text to ensure the reader understands even the most complex of concepts. This succinct and enlightening overview is a required reading for all those interested in the subject . We hope you find this book useful in shaping your future career & Business.

Get up to speed with Prometheus, the metrics-based monitoring system used by tens of thousands of organizations in production. This practical guide provides application developers, sysadmins, and DevOps practitioners with a hands-on introduction to the most important aspects of Prometheus, including dashboarding and alerting, direct code instrumentation, and metric collection from third-party systems with exporters. This open source system has gained popularity over the past few years for good reason. With its simple yet powerful data model and query language, Prometheus does one thing, and it does it well. Author and Prometheus developer Brian Brazil guides you through Prometheus setup, the Node exporter, and the Alertmanager, then demonstrates how to use them for application and infrastructure monitoring. Know where and how much to apply instrumentation to your application code Identify metrics with labels using unique key-value pairs Get an introduction to Grafana, a popular tool for building dashboards Learn how to use the Node Exporter to monitor your infrastructure Use service discovery to provide different views of your machines and services Use Prometheus with Kubernetes and examine exporters you can use with containers Convert data from other monitoring systems into the Prometheus format

Develop programmatic functions to create powerful database applications About This Book Write complex SQL queries and design a robust database design that fits your application's need Improve database performance by indexing, partitioning tables, and query optimizing A comprehensive guide covering the advanced PostgreSQL concepts without any hassle Who This Book Is For If you are a PostgreSQL developer with a basic knowledge of PostgreSQL development and you're want deeper knowledge to develop applications, then this book is for you. As this book does not cover basic installation and configurations, you should have PostgreSQL installed on your machine as a prerequisite. What You Will Learn Write more complex queries with advanced SQL queries Design a database that works with the application exactly the way you want Make the database work in extreme conditions by tuning, optimizing, partitioning, and indexing Develop applications in other programming languages such as Java and PHP Use extensions to get extra benefits in terms of functionality and performance Build an application that does not get locked by data manipulation Explore in-built db functions and data type conversions In Detail PostgreSQL is the most advanced open source database in the world. It is easy to install, configure, and maintain by following the documentation; however, it's difficult to develop applications using programming languages and design databases accordingly. This book is what you need to get the most out of PostgreSQL You will begin with advanced SQL topics such as views, materialized views, and cursors, and learn about performing data type conversions. You will then perform trigger operations and use trigger functions in PostgreSQL. Next we walk through data modeling, normalization concepts, and the effect of transactions and locking on the database. The next half of the book covers the types of indexes, constrains, and the concepts of table partitioning, as well as the different mechanisms and approaches available to write efficient queries or code. Later, we explore PostgreSQL Extensions and Large Object Support in PostgreSQL. Finally, you will perform database operations in PostgreSQL using PHP and Java. By the end of this book, you will have mastered all the aspects of PostgreSQL development. You will be able to build efficient enterprise-grade applications with PostgreSQL by making use of these concepts Style and approach Every chapter follows a step by step approach that first explains the concept , then shows you how to execute it practically so that you can implement them in your application.

Summary PostGIS in Action, Second Edition teaches readers of all levels to write spatial queries that solve real-world problems. It first gives you a background in vector-, raster-, and topology-based GIS and then quickly moves into analyzing, viewing, and mapping data. This second edition covers PostGIS 2.0 and 2.1 series, PostgreSQL 9.1, 9.2, and 9.3 features, and shows you how to integrate with other GIS tools. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book Processing data tied to location and topology requires specialized know-how. PostGIS is a free spatial database extender for PostgreSQL, every bit as good as proprietary software. With it, you can easily create location-aware queries in just a few lines of SQL code and build the back end for a mapping, raster analysis, or routing application with minimal effort. PostGIS in Action, Second Edition teaches you to solve real-world geodata problems. It first gives you a background in vector-, raster-, and topology-based GIS and then quickly moves into analyzing, viewing, and mapping data. You'll learn how to optimize queries for maximum speed, simplify geometries for greater efficiency, and create custom functions for your own applications. You'll also learn how to apply your existing GIS knowledge to PostGIS and integrate with other GIS tools. Familiarity with relational database and GIS concepts is helpful but not required. What's Inside An introduction to spatial databases Geometry, geography, raster, and topology Spatial types, functions, and queries Applying PostGIS to real-world problems Extending PostGIS to web and desktop applications Updated for PostGIS 2.x and PostgreSQL 9.x About the Authors Regina Obe and Leo Hsu are database consultants and authors. Regina is a member of the PostGIS core development team and the Project Steering Committee. Table of Contents PART 1 INTRODUCTION TO POSTGIS What is a spatial database? Spatial data types Spatial reference system considerations Working with real data Using PostGIS on the desktop Geometry and geography functions Raster functions PostGIS TIGER geocoder Geometry relationships PART 2 PUTTING POSTGIS TO WORK Proximity analysis Geometry and geography processing Raster processing Building and using topologies Organizing spatial data Query performance tuning PART 3 USING POSTGIS WITH OTHER TOOLS Extending PostGIS with pgRouting and procedural languages Using PostGIS in web applications

PostgreSQL Replication

A Practical Guide to the Advanced Open Source Database

PostgreSQL 9 Administration Cookbook - Second Edition

A Curious Moon

Mastering PostgreSQL 13

Build and manage high-performance database solutions using PostgreSQL 12 and 13

PostgreSQL is a rock-solid, scalable, and safe, enterprise-level relational database. With a broad range of features and stability it is ever increasing in popularity. The book shows you how to take advantages of PostgreSQL 11 features for Server-Side-Programming. Server-Side-Programming enables strong data encapsulation and coherence.

Mastering PostgreSQL 12

Learning PostgreSQL 11

Heroku

Prometheus: Up & Running

PostgreSQL

PostgreSQL for Data Architects