

Databases With Postgresql

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Migrating Your SQL Server Workloads to PostgreSQL - Shameel Ahmed 2020-05-05

Are you looking for resources to get started with migrating SQL Server Databases to PostgreSQL? This is the book for you. This concise eBook is intended to be a ready reference and a checklist for migrating your databases, applications and

services from Microsoft SQL Server to PostgreSQL and discusses all the important information you need to be aware of before beginning a migration project. This eBook is divided into four chapters: Chapter 1: Getting Started1. Introduction to Open Source Software, its advantages and disadvantages2. Moving from

Licensed software to Open Source
software3.Basics and the history of Microsoft
SQL Server and PostgreSQL4.Choosing the right
PostgreSQL Edition and Version for your
needs5.Production, Development & Testing
Workloads6.On-Premise vs Cloud
comparisonChapter 2: Platform Comparison1.In-
depth comparison of SQL Server and
PostgreSQL2.Concurrency Control3.Database
Structure comparison4.Feature
comparison5.Data Type Mapping6.Built-In
Functions and Operators7.SQL Syntax
differences8.Areas where PostgreSQL has an
edge9.Areas where SQL Server has an
edge10.GUI Client ToolsChapter 3: The Actual
Migration1.Schema migration2.Data
migration3.Code migration4.ETL/ELT
Tools5.Reporting Platforms6.Analytics
Platforms7.Scheduling
Options8.Application/Services MigrationChapter
4: Maintenance and Monitoring1.Maintenance
and Monitoring2.High Availability, Load

Balancing, and Replication3.Environment
Stabilization via Parallel Deployment

Learning PostgreSQL 10 - Salahaldin Juba
2017-12-01

Leverage the power of PostgreSQL 10 to build
powerful database and data warehousing
applications. About This Book Be introduced to
the concept of relational databases and
PostgreSQL, one of the fastest growing open
source databases in the world Learn client-side
and server-side programming in PostgreSQL,
and how to administer PostgreSQL databases
Discover tips on implementing efficient database
solutions with PostgreSQL 10 Who This Book Is
For If you're interested in learning more about
PostgreSQL - one of the most popular relational
databases in the world, then this book is for you.
Those looking to build solid database or data
warehousing applications with PostgreSQL 10
will also find this book a useful resource. No
prior knowledge of database programming or
administration is required to get started with

this book. What You Will Learn Understand the fundamentals of relational databases, relational algebra, and data modeling Install a PostgreSQL cluster, create a database, and implement your data model Create tables and views, define indexes, and implement triggers, stored procedures, and other schema objects Use the Structured Query Language (SQL) to manipulate data in the database Implement business logic on the server side with triggers and stored procedures using PL/pgSQL Make use of advanced data types supported by PostgreSQL 10: Arrays, hstore, JSONB, and others Develop OLAP database solutions using the most recent features of PostgreSQL 10 Connect your Python applications to a PostgreSQL database and work with the data efficiently Test your database code, find bottlenecks, improve performance, and enhance the reliability of the database applications In Detail PostgreSQL is one of the most popular open source databases in the world, and supports the most advanced features

included in SQL standards and beyond. This book will familiarize you with the latest new features released in PostgreSQL 10, and get you up and running with building efficient PostgreSQL database solutions from scratch. We'll start with the concepts of relational databases and their core principles. Then you'll get a thorough introduction to PostgreSQL and the new features introduced in PostgreSQL 10. We'll cover the Data Definition Language (DDL) with an emphasis on PostgreSQL, and the common DDL commands supported by ANSI SQL. You'll learn to create tables, define integrity constraints, build indexes, and set up views and other schema objects. Moving on, you'll get to know the concepts of Data Manipulation Language (DML) and PostgreSQL server-side programming capabilities using PL/pgSQL. This will give you a very robust background to develop, tune, test, and troubleshoot your database application. We'll also explore the NoSQL capabilities of

PostgreSQL and connect to your PostgreSQL database to manipulate data objects. By the end of this book, you'll have a thorough understanding of the basics of PostgreSQL 10 and will have the necessary skills to build efficient database solutions. Style and approach This book is a comprehensive beginner level tutorial on PostgreSQL and introduces the features of the newest version 10, along with explanation of concepts in a very easy to understand manner. Practical tips and examples are provided at every step to ensure you are able to grasp each topic as quickly as possible.

PostgreSQL 10 Administration Cookbook - Simon Riggs 2018-05-10

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 most suited to those looking for hands-on solutions to any problem associated with PostgreSQL administration.

Mastering PostgreSQL in Application

Development - Dimitri Fontaine 2017-11-05
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!

PostgreSQL 8 for Windows - Richard Blum
2007-03-22

The easiest way to set up a PostgreSQL database server on Windows Get up-and-running on PostgreSQL quickly using this hands-on guide. Filled with real-world examples, PostgreSQL 8 for Windows offers you practical, step-by-step details on installing, configuring, and using PostgreSQL 8--the full-featured, open-source database management system--on Windows platforms. You'll learn to administer, secure, and tune your database and use SQL. You'll also discover how to interface Microsoft Access,

Microsoft .NET, Visual C++, and Java with the PostgreSQL database. Install and configure PostgreSQL 8 on Windows Customize your system using the configuration files Work with the utilities Administer your database from the pgAdmin III graphical interface Use the psql command line program to manually execute SQL commands Take advantage of built-in functions or create your own stored procedures and triggers Implement tested security measures Maintain optimal database performance Access a PostgreSQL database from a Microsoft Access application and migrate Access databases to PostgreSQL Create .NET, Visual C++, and Java applications that interface with your PostgreSQL server

Mastering PostgreSQL 10 - Hans-Jürgen Schönig
2018-01-31

Master the capabilities of PostgreSQL 10 to efficiently manage and maintain your database
Key Features Your one-stop guide to mastering advanced concepts in PostgreSQL 10 with ease

Master query optimization, replication, and high availability with PostgreSQL Extend the functionalities of your PostgreSQL instance to suit your organizational needs with minimal effort Book Description PostgreSQL is an open source database used for handling large datasets (big data) and as a JSON document database. This book highlights the newly introduced features in PostgreSQL 10, and shows you how you can build better PostgreSQL applications, and administer your PostgreSQL database more efficiently. We begin by explaining advanced database design concepts in PostgreSQL 10, along with indexing and query optimization. You will also see how to work with event triggers and perform concurrent transactions and table partitioning, along with exploring SQL and server tuning. We will walk you through implementing advanced administrative tasks such as server maintenance and monitoring, replication, recovery, high availability, and much more. You will understand common and not-so-

common troubleshooting problems and how you can overcome them. By the end of this book, you will have an expert-level command of advanced database functionalities and will be able to implement advanced administrative tasks with PostgreSQL 10. What you will learn Get to grips with the advanced features of PostgreSQL 10 and handle advanced SQL Make use of the indexing features in PostgreSQL and fine-tune the performance of your queries Work with stored procedures and manage backup and recovery Master replication and failover techniques Troubleshoot your PostgreSQL instance for solutions to common and not-so-common problems Learn how to migrate your database from MySQL and Oracle to PostgreSQL without any hassle Who this book is for If you are a PostgreSQL data architect or an administrator and want to understand how to implement advanced functionalities and master complex administrative tasks with PostgreSQL 10, then this book is perfect for you. Prior

experience of administrating a PostgreSQL database and a working knowledge of SQL are required to make the best use of this book.

Learn PostgreSQL 12 - LUCA. PIROZZI
FERRARI (ENRICO.) 2020-07

PostgreSQL 11 Administration Cookbook - Simon Riggs 2019-05-03

A practical guide to administer, monitor and replicate your PostgreSQL 11 database Key Features Study and apply the newly introduced features in PostgreSQL 11 Tackle any problem in PostgreSQL 11 administration and management Catch up on expert techniques for monitoring, fine-tuning, and securing your database 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 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 learn

Troubleshoot open source PostgreSQL version 11 on various platforms
Deploy best practices for planning and designing live

databases
Select and implement robust backup and recovery techniques in PostgreSQL 11
Use pgAdmin or OmniDB to perform database administrator (DBA) tasks
Adopt efficient replication and high availability techniques in PostgreSQL
Improve the performance of your PostgreSQL solution
Who 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

PostgreSQL - Bruce Momjian 2001

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 explores 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.

Django for Professionals - William S. Vincent
2022-05-19

Completely updated for Django 4.0! Django for Professionals takes your web development skills to the next level, teaching you how to build production-ready websites with Python and Django. Once you have learned the basics of Django there is a massive gap between building simple "toy apps" and what it takes to build a "production-ready" web application suitable for deployment to thousands or even millions of users. In the book you'll learn how to: * Build a Bookstore website from scratch * Use Docker and PostgreSQL locally to mimic production settings * Implement advanced user registration with email * Customize permissions to control user access * Write comprehensive tests * Adopt advanced security and performance

improvements * Add search and file/image uploads * Deploy with confidence If you want to take advantage of all that Django has to offer, Django for Professionals is a comprehensive best practices guide to building and deploying modern websites.

PostgreSQL 9 Administration Cookbook Lite

- Simon Riggs 2011-04-15

This book is for Sysadmins, Database Administrators, Architects, Developers, and anyone with an interest in planning for or running live production databases.

PostgreSQL - Korry Douglas 2003

"PostgreSQL" leads users through the internals of an open-source database. Throughout the book are explanations of data structures and algorithms, each backed by a concrete example from the actual source code. Each section contains information about performance implications, debugging techniques, and pointers to more information (on the Web and in book form).

A Curious Moon - Rob Conery 2020-12-13

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 enable, enhance 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 database 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...

Mastering PostgreSQL 12 - Hans-Jürgen Schönig 2019-11-29

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 as familiarity with the basics of database administration is expected.

PostgreSQL Server Programming - Second Edition - Usama Dar 2015-02-26

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.

Learning PostgreSQL 10 - Second Edition -

Salahaldin Juba 2017-11-28

Leverage the power of PostgreSQL 10 to build powerful database and data warehousing applications. About This Book* Be introduced to the concept of relational databases and PostgreSQL, one of the fastest growing open source databases in the world* Learn client-side and server-side programming in PostgreSQL, and how to administer PostgreSQL databases* Discover tips on implementing efficient database solutions with PostgreSQL 10 Who This Book Is For If you're interested in learning more about PostgreSQL - one of the most popular relational databases in the world, then this book is for you. Those looking to build solid database or data warehousing applications with PostgreSQL 10 will also find this book a useful resource. No prior knowledge of database programming or administration is required to get started with this book. What You Will Learn* Understand the

fundamentals of relational databases, relational algebra, and data modeling* Install a PostgreSQL cluster, create a database, and implement your data model* Create tables and views, define indexes, and implement triggers, stored procedures, and other schema objects* Use the Structured Query Language (SQL) to manipulate data in the database* Implement business logic on the server side with triggers and stored procedures using PL/pgSQL* Make use of advanced data types supported by PostgreSQL 10: Arrays, hstore, JSONB, and others* Develop OLAP database solutions using the most recent features of PostgreSQL 10* Connect your Python applications to a PostgreSQL database and work with the data efficiently* Test your database code, find bottlenecks, improve performance, and enhance the reliability of the database applications In Detail PostgreSQL is one of the most popular open source databases in the world, and supports the most advanced features included in

SQL standards and beyond. This book will familiarize you with the latest new features released in PostgreSQL 10, and get you up and running with building efficient PostgreSQL database solutions from scratch. We'll start with the concepts of relational databases and their core principles. Then you'll get a thorough introduction to PostgreSQL and the new features introduced in PostgreSQL 10. We'll cover the Data Definition Language (DDL) with an emphasis on PostgreSQL, and the common DDL commands supported by ANSI SQL. You'll learn to create tables, define integrity constraints, build indexes, and set up views and other schema objects. Moving on, you'll get to know the concepts of Data Manipulation Language (DML) and PostgreSQL server-side programming capabilities using PL/pgSQL. This will give you a very robust background to develop, tune, test, and troubleshoot your database application. We'll also explore the NoSQL capabilities of PostgreSQL and connect to your PostgreSQL

database to manipulate data objects. By the end of this book, you'll have a thorough understanding of the basics of PostgreSQL 10 and will have the necessary skills to build efficient database solutions. Style and approach This book is a comprehensive beginner level tutorial on PostgreSQL and introduces the features of the newest version 10, along with explanation of concepts in a very easy to understand manner. Practical tips and examples are provided at every step to ensure you are able to grasp each topic as quickly as possible.

PostgreSQL Development Essentials - Manpreet Kaur 2016-09-26

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.

PostgreSQL Configuration - Baji Shaik

2020-03-16

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 choose the right one based on 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.

PostgreSQL Developer's Handbook - Ewald

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guest

Geschwinde 2002

"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.

Developing Modern Database Applications with PostgreSQL - DR. QUAN HA. LE

2021-08-13

Get up to speed with core PostgreSQL tasks such as database administration, application development, database performance monitoring, and database testing Key Features: Build real-world enterprise database management systems using Postgres 12 features Explore the development, administrative and security aspects of PostgreSQL 12 Implement best practices from industry experts to build powerful

database applications Book Description: PostgreSQL is an open-source object-relational database management system (DBMS) that provides enterprise-level services, including high performance and scalability. This book is a collection of unique projects providing you with a wealth of information relating to administering, monitoring, and testing PostgreSQL. The focus of each project is on both the development and the administrative aspects of PostgreSQL. Starting by exploring development aspects such as database design and its implementation, you'll then cover PostgreSQL administration by understanding PostgreSQL architecture, PostgreSQL performance, and high-availability clusters. Various PostgreSQL projects are explained through current technologies such as DevOps and cloud platforms using programming languages like Python and Node.js. Later, you'll get to grips with the well-known database API tool, PostgREST, before learning how to use

popular PostgreSQL database testing frameworks. The book is also packed with essential tips and tricks and common patterns for working seamlessly in a production environment. All the chapters will be explained with the help of a real-world case study on a small banking application for managing ATM locations in a city. By the end of this DBMS book, you'll be proficient in building reliable database solutions as per your organization's needs. What You Will Learn: Set up high availability PostgreSQL database clusters in the same containment, a cross-containment, and on the cloud Monitor the performance of a PostgreSQL database Create automated unit tests and implement test-driven development for a PostgreSQL database Develop PostgreSQL apps on cloud platforms using DevOps with Python and Node.js Write robust APIs for PostgreSQL databases using Python programming, Node.js, and PostgREST Create a geospatial database using PostGIS and

PostgreSQL Implement automatic configuration by Ansible and Terraform for Postgres Who this book is for: This PostgreSQL book is for database developers, database administrators, data architects, or anyone who wants to build end-to-end database projects using Postgres. This book will also appeal to software engineers, IT technicians, computer science researchers, and university students who are interested in database development and administration. Some familiarity with PostgreSQL and Linux is required to grasp the concepts covered in the book effectively.

Advanced Rails - Brad Ediger 2007-12-21
A guide to building applications with Rails covers such topics as metaprogramming, Active Support library, advanced database functions, security principles, RESTful architecture, and optimizing performance.

Learning PostgreSQL - Salahaldin Juba
2015-11-30
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 functions, 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 PostegreSQL. 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.

Beginning PostgreSQL on the Cloud - Baji Shaik
2018-03-19

Get started with PostgreSQL on the cloud and discover the advantages, disadvantages, and limitations of the cloud services from Amazon, Rackspace, Google, and Azure. Once you have

chosen your cloud service, you will focus on securing it and developing a back-up strategy for your PostgreSQL instance as part of your long-term plan. *Beginning PostgreSQL on the Cloud* covers other essential topics such as setting up replication and high availability; encrypting your saved cloud data; creating a connection pooler for your database; and monitoring PostgreSQL on the cloud. The book concludes by showing you how to install and configure some of the tools that will help you get started with PostgreSQL on the cloud. This book shows you how database as a service enables you to spread your data across multiple data centers, ensuring that it is always accessible. You'll discover that this model does not expect you to install and maintain databases yourself because the database service provider does it for you. You no longer have to worry about the scalability and high availability of your database. What You Will Learn Migrate PostgreSQL to the cloud Choose the best configuration and specifications of

cloud instances Set up a backup strategy that enables point-in-time recovery Use connection pooling and load balancing on cloud environments Monitor database environments on the cloud Who This Book Is For Those who are looking to migrate to PostgreSQL on the Cloud. It will also help database administrators in setting up a cloud environment in an optimized way and help them with their day-to-day tasks.

Practical PostgreSQL - Joshua D. Drake
2002-01-07

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.

Learning PostgreSQL 11 - Salahaldin Juba
2019-01-31

Leverage the power of PostgreSQL 11 to build powerful database and data warehousing

applications Key Features Monitor, secure, and fine-tune your PostgreSQL 11 database Learn client-side and server-side programming using SQL and PL/pgSQL Discover tips on implementing efficient database solutions Book 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 database solutions from scratch. Learning PostgreSQL, 11 begins 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, tune, test, and troubleshoot your database application. The 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 learn Understand the basics of relational databases, relational algebra, and data modeling Install a PostgreSQL server, create a database, and implement your data model Create tables and views, define indexes and stored procedures, and implement triggers Make use of advanced data types such as Arrays, hstore, and JSONB Connect your Python applications to PostgreSQL and work with data efficiently Identify bottlenecks to

enhance reliability and performance of database applications. Who 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.

PostgreSQL: Up and Running - Regina O. Obe
2017-10-10

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 9.5 to 10, you'll also discover that PostgreSQL is more than a database system—it's an impressive application platform as well. With examples throughout, this book shows you how to achieve tasks that are difficult or impossible in other databases. This third

edition covers new features, such as ANSI-SQL constructs found only in proprietary databases until now: foreign data wrapper (FDW) enhancements; new full text functions and operator syntax introduced in version 9.6; XML constructs new in version 10; query parallelization features introduced in 9.6 and enhanced in 10; built-in logical replication introduced in Version 10.e. If you're a current PostgreSQL user, you'll pick up gems you may have missed before. 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

PostgreSQL - Regina O. Obe 2012

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

PostgreSQL 9 Administration Cookbook Lite: Configuration, Monitoring and Maintenance - Simon Riggs 2011-04-01

Written in the cookbook style, this book offers

learning and techniques through recipes. It contains step-by-step instructions for

administrators and developers to manage databases in PostgreSQL. The book is designed

in such a way that you can read it chapter by chapter or refer to recipes in no particular

order. This book is for Sysadmins, Database Administrators, Architects, Developers, and anyone with an interest in planning for or

running live production databases. The book assumes that you are familiar with the basic operation of PostgreSQL.

PostgreSQL 10 High Performance - Enrico Pirozzi 2018-04-30

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. Mastering PostgreSQL 13 - Hans-Jürgen Schönig 2020-11-13

Explore expert techniques such as advanced indexing and high availability to build scalable, reliable, and fault-tolerant database applications using PostgreSQL 13 Key Features Master advanced PostgreSQL 13 concepts with the help of real-world datasets and examples Leverage PostgreSQL's indexing features to fine-tune the performance of your queries Extend PostgreSQL's functionalities to suit your organization's needs with minimal effort Book 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.

PostgreSQL: Up and Running - Regina O. Obe
2012-07-06

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 features

PostgreSQL 14 Administration Cookbook - Simon Riggs
2022-03-31

Administer, monitor, and replicate your PostgreSQL 14 database for efficient database management and maintenance Key Features Troubleshoot and tackle any administration and management problems in

PostgreSQL 14 Find expert techniques for monitoring, fine-tuning, and securing your database Adopt efficient replication for high availability with PostgreSQL 14 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 14 allows you to scale up your PostgreSQL infrastructure. With this book, you'll take a step-by-step, recipe-based approach to effective PostgreSQL administration. This book will get you up and running with all the latest features of PostgreSQL 14 while helping you explore the entire database ecosystem. You'll learn how to tackle a variety of problems and pain points you may face as a database administrator such as creating tables, managing views, improving performance, and securing your database. As you make progress, the book will draw attention to important topics such as monitoring roles, validating backups, regular maintenance, and

recovery of your PostgreSQL 14 database. This will help you understand roles, ensuring high availability, concurrency, and replication. Along with updated recipes, this book touches upon important areas like using generated columns, TOAST compression, PostgreSQL on the cloud, and much more. By the end of this PostgreSQL book, you'll have gained the knowledge you need to manage your PostgreSQL 14 database efficiently, both in the cloud and on-premise. What you will learn Plan, manage, and maintain PostgreSQL databases in production Work with the newly introduced features of PostgreSQL 14 Use pgAdmin or OmniDB to perform database administrator (DBA) tasks Use psql to write accurate and repeatable scripts Understand how to tackle real-world data issues with the help of examples Select and implement robust backup and recovery techniques in PostgreSQL 14 Deploy best practices for planning and designing live databases Who this book is for This Postgres 14 book is for database

administrators, data architects, database developers, and anyone with an interest in planning and running live production databases using PostgreSQL 14. Those looking for hands-on solutions to any problem associated with PostgreSQL 14 administration will also find this book useful. Some experience with handling PostgreSQL databases will help you to make the most out of this book, however, it is a useful resource even if you are just beginning your Postgres journey.

Mastering PostgreSQL 13 - Fourth Edition -
HANS-JURGEN. SCHONIG 2020-11-13

Explore expert techniques such as advanced indexing and high availability to build scalable, reliable, and fault-tolerant database applications using PostgreSQL 13 Key Features Master advanced PostgreSQL 13 concepts with the help of real-world datasets and examples Leverage PostgreSQL's indexing features to fine-tune the performance of your queries Extend PostgreSQL's functionalities to suit your

organization's needs with minimal effort Book 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 Learn Get well versed with advanced SQL functions in PostgreSQL 13 Get to grips with administrative tasks such as log file management and monitoring Work with stored procedures and manage backup and recovery Employ replication and failover techniques to reduce data loss Perform database migration from Oracle to PostgreSQL with ease Replicate PostgreSQL database systems to create backups and scale your database Manage and improve server security to protect your data Troubleshoot your PostgreSQL instance to find solutions to common and not-so-common

problems Who 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

PostgreSQL High Performance Cookbook -
Chitij Chauhan 2017-03-29

Get to know effective ways to improve PostgreSQL's performance and master query optimization, and database monitoring. About This Book* Perform essential database tasks such as benchmarking the database and optimizing the server's memory usage* Learn ways to improve query performance and optimize the PostgreSQL server* Explore a wide range of high availability and replication mechanisms to build robust, highly available,

scalable, and fault-tolerant PostgreSQL databases. Who This Book Is For: If you are a developer or administrator with limited PostgreSQL knowledge and want to develop your skills with this great open source database, then this book is ideal for you. Learning how to enhance the database performance is always an exciting topic to everyone, and this book will show you enough ways to enhance the database performance. What You Will Learn:

- * Build replication strategies for homogeneous and heterogeneous databases
- * Test and build a powerful machine with multiple benchmarking techniques
- * Get to know a few SQL injection techniques
- * Find out how to manage the replication using multiple tools
- * Benchmark the database server using multiple strategies
- * Work with the query processing algorithms and their internal behaviors
- * Build a proper plan to upgrade or migrate to PostgreSQL from other databases
- * See the essential database load balancing techniques and the various

partitioning approaches PostgreSQL provides

- * Learn memory optimization techniques and database server configurations

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. It also provides NoSQL capabilities and very rich data types and extensions. All of this makes PostgreSQL a very attractive solution in software systems. If you run a database, you want it to perform well and you want to be able to secure it. As the world's most advanced open source database, PostgreSQL has unique built-in ways to achieve these goals. This book will show you a multitude of ways to enhance your database's performance and give you insights into measuring and optimizing a PostgreSQL database to achieve better performance. This book is your one-stop guide to elevate your

PostgreSQL knowledge to the next level. First, you'll get familiarized with essential developer/administrator concepts such as load balancing, connection pooling, and distributing connections to multiple nodes. Next, you will explore memory optimization techniques before exploring the security controls offered by PostgreSQL. Then, you will move on to the essential database/server monitoring and replication strategies with PostgreSQL. Finally, you will learn about query processing algorithms.

Style and approach This comprehensive guide is packed with practical administration tasks. Each topic is explained using examples and a step-by-step approach.

PostgreSQL for Data Architects - Jayadevan Maymala 2015-03-30

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.

Learning PostgreSQL - Salahaldin Juba 2015-11-30

Create, develop and manage relational databases in real world applications using PostgreSQL

- 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

functions, 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 refactoringIn DetailPostgreSQL 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 PostegreSQL. 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 approachAn easy-to-follow guide to learn programming build applications with PostgreSQL, and manage a PostgreSQL database instance.

PostgreSQL 13 Cookbook - Vallarapu Naga Avinash Kumar 2021-02-26

Get to grips with building reliable, scalable, and

maintainable database solutions for enterprises and production databases

Key Features:

- Implement PostgreSQL 13 features to perform end-to-end modern database management
- Design, manage, and build enterprise database solutions using a unique recipe-based approach
- Solve common and not-so-common challenges faced while working to achieve optimal database performance

Book Description: PostgreSQL has become the most advanced open source database on the market. This book follows a step-by-step approach, guiding you effectively in deploying PostgreSQL in production environments. The book starts with an introduction to PostgreSQL and its architecture. You'll cover common and not-so-common challenges faced while designing and managing the database. Next, the book focuses on backup and recovery strategies to ensure your database is steady and achieves optimal performance. Throughout the book, you'll address key challenges such as maintaining reliability, data

integrity, a fault-tolerant environment, a robust feature set, extensibility, consistency, and authentication. Moving ahead, you'll learn how to manage a PostgreSQL cluster and explore replication features for high availability. Later chapters will assist you in building a secure PostgreSQL server, along with covering recipes for encrypting data in motion and data at rest. Finally, you'll not only discover how to tune your database for optimal performance but also understand ways to monitor and manage maintenance activities, before learning how to perform PostgreSQL upgrades during downtime. By the end of this book, you'll be well-versed with the essential PostgreSQL 13 features to build enterprise relational databases.

What You Will Learn:

- Understand logical and physical backups in Postgres
- Demonstrate the different types of replication methods possible with PostgreSQL today
- Set up a high availability cluster that provides seamless automatic failover for applications
- Secure a PostgreSQL encryption

through authentication, authorization, and auditing Analyze the live and historic activity of a PostgreSQL server Understand how to monitor critical services in Postgres 13 Manage maintenance activities and performance tuning of a PostgreSQL cluster Who this book is for: This PostgreSQL book is for database architects, database developers and administrators, or anyone who wants to become well-versed with PostgreSQL 13 features to plan, manage, and design efficient database solutions. Prior experience with the PostgreSQL database and SQL language is expected.

Beginning Databases with PostgreSQL - Richard Stones 2006-11-03

*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 Learn PostgreSQL - Luca Ferrari 2020-10-09

A comprehensive guide to building, managing, and securing scalable and reliable database and data warehousing applications using Postgres 12 and 13 Key Features Set up your database cluster and monitor, secure, and fine-tune it for optimal performance Learn the fundamentals of database management and implement client- and server-side programming using SQL and PL/pgSQL Explore useful tips to develop efficient PostgreSQL database solutions from scratch Book 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 learn

Understand how users and connections are managed by running a PostgreSQL instance
Interact with transaction boundaries using server-side programming
Identify bottlenecks to maintain

your database efficiently
Create and manage extensions to add new functionalities to your cluster
Choose the best index type for each situation
Use online tools to set up a memory configuration that will suit most databases
Explore how Postgres can be used in multi-instance environments to provide high-availability, redundancy, and scalability
Who 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.

[PostgreSQL 12 High Availability Cookbook](#) - Shaun Thomas 2020-02-25
A comprehensive guide to understanding key techniques for architecture and hardware planning, monitoring, replication, backups, and

decoupling Key Features Newly updated edition, covering the latest PostgreSQL 12 features with hands-on industry-driven recipes Create a PostgreSQL cluster that stays online even when disaster strikes Learn how to avoid costly downtime and data loss that can ruin your business Book Description Databases are nothing without the data they store. In the event of an outage or technical catastrophe, immediate recovery is essential. This updated edition ensures that you will learn the important concepts related to node architecture design, as well as techniques such as using `repmgr` for failover automation. From cluster layout and hardware selection to software stacks and horizontal scalability, this PostgreSQL cookbook will help you build a PostgreSQL cluster that will survive crashes, resist data corruption, and grow smoothly with customer demand. You'll start by understanding how to plan a PostgreSQL database architecture that is resistant to outages and scalable, as it is the scaffolding on

which everything rests. With the bedrock established, you'll cover the topics that PostgreSQL database administrators need to know to manage a highly available cluster. This includes configuration, troubleshooting, monitoring and alerting, backups through proxies, failover automation, and other considerations that are essential for a healthy PostgreSQL cluster. Later, you'll learn to use multi-master replication to maximize server availability. Later chapters will guide you through managing major version upgrades without downtime. By the end of this book, you'll have learned how to build an efficient and adaptive PostgreSQL 12 database cluster. What you will learn Understand how to protect data with PostgreSQL replication tools Focus on hardware planning to ensure that your database runs efficiently Reduce database resource contention with connection pooling Monitor and visualize cluster activity with Nagios and the TIG (Telegraf, InfluxDB, Grafana) stack Construct a

robust software stack that can detect and avert outages Use multi-master to achieve an enduring PostgreSQL cluster Who this book is for This book is for Postgres administrators and developers who are looking to build and

maintain a highly reliable PostgreSQL cluster. Although knowledge of the new features of PostgreSQL 12 is not required, a basic understanding of PostgreSQL administration is expected.