

# Troubleshooting Postgresql

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## **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.

## **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 9.0 Official Documentation - Volume II. Server Administration* - Postgresql Global Development Group 2011-03

This book is part of the PostgreSQL 9.0 documentation collection (up-to-date & full), published by Fultus Corporation. PostgreSQL 9.0 includes built-in, binary replication, and over a dozen other major features which will appeal to everyone from web developers to database hackers.

**BUILDING TWO DESKTOP APPLICATIONS USING PYTHON GUI AND POSTGRESQL** - Vivian Siahaan 2019-11-07

In this book, you will create two desktop applications using Python GUI and PostgreSQL. This book is a Python/PostgreSQL version of the Python/MySQL book which was written by the author. What underlies the writing of this book is the growing popularity of the PostgreSQL database server lately and more and more programmers migrating from MySQL to PostgreSQL. In this book, you will learn to build a school database project, step by step. A number of widgets from PyQt will be used for the user interface. In the first and second chapter, you will get introduction of postgresql. And then, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In the fourth chapter, you will study: Creating the initial three table in the School database project: Teacher table, Class table, and Subject table; Creating database configuration files; Creating a Python GUI for viewing and navigating the contents of each table. Creating a Python GUI for inserting and editing tables; and Creating a Python GUI to merge and query the three tables. In chapter five, you will learn: Creating the main form to connect all forms; Creating a project that will add three more tables to the school database: the Student table, the Parent table, and the Tuition table; Creating a Python GUI to view and navigate the contents of each table; Creating a Python GUI for editing, inserting, and deleting records in each table; Create a Python GUI to merge and query the three tables and all six tables. In chapter six, you will create dan configure PotgreSQL database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature\_Extraction, which has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police\_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. You will also create GUI to

display, edit, insert, and delete for both tables. In chapter nine, you will create two tables, Victim and Case\_File. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The Case\_File table has seven columns: case\_file\_id (primary key), suspect\_id (foreign key), police\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

**OpenCV-Python with PostgreSQL for Absolute Beginners** - Vivian Siahaan 2019-09-15

This book consists of a series of step-by-step tutorials for creating mini projects in integrating pyqt, python, opencv, and PostgreSQL database. By studying this book, you will understand how to program python GUIs involving opencv and databases in applications. This book is suitable for beginners, students, engineers, and even researchers in a variety of disciplines. No advanced programming experience is needed, and only a few school-level programming skills are needed. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In chapter three and chapter four, you will get introduction of postgresql. And then, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In chapter five, you will create dan configure PostgreSQL database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter six, you will create a table with the name Feature\_Extraction, which has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create two tables, Police and Investigator. The Police table has six columns: police\_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter eight, you will create two tables, Victim and Case\_File. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The Case\_File table has seven columns: case\_file\_id (primary key), suspect\_id (foreign key), police\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

**PostgreSQL 9 Administration Cookbook - Second Edition** - Simon Riggs 2015-04-30

Through example-driven recipes, with plenty of code, focused on the most vital features of the latest PostgreSQL version (9.4), both administrators and developers will follow short, specific guides to understand and leverage useful Postgre functionalities to create better and more efficient databases.

**Mastering PostgreSQL 9.6** - Hans-Jurgen Schonig 2017-05-30

Master the capabilities of PostgreSQL 9.6 to efficiently manage and maintain your database About This Book Your one-stop guide to mastering the advanced concepts in PostgreSQL with ease Master query optimization, replication, and high availability with PostgreSQL Extend the functionalities of PostgreSQL to suit your organizational needs with minimum effort Who This Book Is For If you are a PostgreSQL data

architect or an administrator who wants to understand how to implement advanced functionalities and master complex administrative tasks with PostgreSQL, then this book is perfect for you. Prior experience of administrating a PostgreSQL database and a working knowledge of SQL is required to make the best use of this book. What You Will Learn Get to grips with the advanced features of PostgreSQL 9.6 and handle advanced SQL Make use of the indexing features in PostgreSQL and fine-tune the performance of your queries Work with the stored procedures and manage backup and recovery Master the replication and failover techniques Troubleshoot your PostgreSQL instance for solutions to the common and not-so-common problems Learn how to migrate your database from MySQL and Oracle to PostgreSQL without any hassle In Detail PostgreSQL is an open source database used for handling large datasets (Big Data) and as a JSON document database. It also has applications in the software and web domains. This book will enable you to build better PostgreSQL applications and administer databases more efficiently. We begin by explaining the advanced database design concepts in PostgreSQL 9.6, 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 and high availability, and much more. You will understand the 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 the advanced database functionalities and will be able to implement advanced administrative tasks with PostgreSQL. Style and Approach This book is a comprehensive guide covering all the concepts you need to master PostgreSQL. Packed with hands-on examples, tips and tricks, even the most advanced concepts are explained in a very easy-to-follow manner. Every chapter in the book does not only focus on how each task is performed, but also why.

**SQL Cookbook** - Anthony Molinaro 2020-11-03

You may know SQL basics, but are you taking advantage of its expressive power? This second edition applies a highly practical approach to Structured Query Language (SQL) so you can create and manipulate large stores of data. Based on real-world examples, this updated cookbook provides a framework to help you construct solutions and executable examples in several flavors of SQL, including Oracle, DB2, SQL Server, MySQL, and PostgreSQL. SQL programmers, analysts, data scientists, database administrators, and even relatively casual SQL users will find SQL Cookbook to be a valuable problem-solving guide for everyday issues. No other resource offers recipes in this unique format to help you tackle nagging day-to-day conundrums with SQL. The second edition includes: Fully revised recipes that recognize the greater adoption of window functions in SQL implementations Additional recipes that reflect the widespread adoption of common table expressions (CTEs) for more readable, easier-to-implement solutions New recipes to make SQL more useful for people who aren't database experts, including data scientists Expanded solutions for working with numbers and strings Up-to-date SQL recipes throughout the book to guide you through the basics

**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.

**LEARNING PyQt5** - Vivian Siahaan 2019-09-07

In this book, you will learn PyQt5 with accompanied by a step-by-step tutorial to develop postgresql-base applications. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In the next two chapters, you will get introduction of postgresql. And then, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In the fourth chapter, you will study: Creating the initial three table in the School database project: Teacher table, Class table, and Subject table; Creating database configuration files; Creating a Python GUI for viewing and navigating the contents of each table. Creating a Python GUI for inserting and editing tables; and Creating a Python GUI to merge and query the three tables. In last chapter, you will learn: Creating the main form to connect all forms; Creating a project that will add three more tables to the school database: the Student table, the Parent table, and the Tuition table; Creating a Python GUI to view and navigate the contents of each table; Creating a Python GUI for editing, inserting, and deleting records in each table; Create a Python GUI to merge and query the three tables and all six tables. Finally, this book is hopefully useful for you.

**POSTGRESQL FOR JAVA GUI: Database, Cryptography, and Image Processing** - Vivian Siahaan 2019-09-01

In this book, you will learn how to build from scratch a criminal records management database system using Java/PostgreSQL. All Java code for cryptography and digital image processing in this book is Native Java. Intentionally not to rely on external libraries, so that readers know in detail the process of extracting digital images from scratch in Java. There are only three external libraries used in this book: Connector / J to facilitate Java to PostgreSQL connections, JCalendar to display calendar controls, and JFreeChart to display graphics. Digital image techniques to extract image features used in this book are grascaling, sharpening, invertering, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second chapter, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has

parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In the second chapter, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. In the third chapter, you will learn how to create and store salt passwords and verify them. You will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In the fourth chapter, you will create an Account table. This account table has the following ten fields: account\_id (primary key), client\_id (primarykey), account\_number, account\_date, account\_type, plain\_balance, cipher\_balance, decipher\_balance, digital\_signature, and signature\_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In the fifth chapter, you create a table with the name of the Account, which has ten columns: account\_id (primary key), client\_id (primarykey), account\_number, account\_date, account\_type, plain\_balance, cipher\_balance, decipher\_balance, digital\_signature, and signature\_verification. In the sixth chapter, you will create a Client\_Data table, which has the following seven fields: client\_data\_id (primary key), account\_id (primary\_key), birth\_date, address, mother\_name, telephone, and photo\_path. In the seventh chapter, you will be taught how to create Crime database and its tables. In eighth chapter, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In the nineth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. In the tenth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Feature\_Extraction table data. This table has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In the eleventh chapter, you will add two tables: Police\_Station and Investigator. These two tables will later be joined to Suspect table through another table, File\_Case, which will be built in the seventh chapter. The Police\_Station has six columns: police\_station\_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In the twelfth chapter, you will add two tables: Victim and File\_Case. The File\_Case table will connect four other tables: Suspect, Police\_Station, Investigator and Victim. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The File\_Case has seven columns: file\_case\_id (primary key), suspect\_id (foreign key), police\_station\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful for you.

**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 FeaturesNewly updated edition, covering the latest PostgreSQL 12 features with hands-on industry-driven recipesCreate a PostgreSQL cluster that stays online even when disaster strikesLearn how to avoid costly downtime and data loss that can ruin your businessBook 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.

**Streamline your Manufacturing Processes with OpenERP** - Els Van Vossel 2011-07-01

Step By Step Database Programming with JDBC and PostgreSQL - Vivian Siahaan 2019-04-08

PostgreSQL was designed to run on UNIX-like platforms. However, PostgreSQL was then also designed to be portable so that it could run on various platforms such as Mac OS X, Solaris, and Windows. PostgreSQL is free and open source software. Its source code is available under PostgreSQL license, a liberal open source license. You are free to use, modify and distribute PostgreSQL in any form. PostgreSQL requires very minimum maintained efforts because of its stability. Therefore, if you develop applications based on PostgreSQL, the total cost of ownership is low in comparison with other database management systems. In Chapter 2, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In Chapter 3, you will learn managing table structure and views including postgresql data types, postgresql create table, postgresql select into statement, postgresql create table as, using postgresql serial to create auto-increment column, identity column, alter table, drop table, truncate table, check constraint, not-null constraint, foreign key, primary key, unique constraint, managing postgresql views, creating updatable views, materialized views, creating updatable views using the with check option clause, and recursive view. In Chapter 4, you will learn statements, operators, and clauses including select, order by, select distinct, limit, fetch, in, between, postgresql like, is null, alias, joins, inner join, postgresql left join, self-join, full outer join, cross join, natural join, group by, having, intersect operator, except operator, grouping sets, cube, and rollup. In Chapter 5, you will learn postgresql trigger, aggregate, and string functions including creating the first trigger in postgresql, managing postgresql trigger, aggregate functions, avg function, max function, min function, sum function, postgresql concat function, ascii function, trim function, length function, substring function, regexp\_matches function, regexp\_replace function, replace function, to\_number function, and to\_char function.

**Troubleshooting PostgreSQL** - Hans-Jürgen Schönig 2015-03-30

If you are a database administrator looking for solutions to common PostgreSQL problems, this is the book for you. The book is suitable for people with intermediate and professional expertise.

**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 bench marking 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.

Learn JDBC The Hard Way: A Hands-On Guide to PostgreSQL and SQL Server Driven Programming - Vivian Siahaan 2019-11-23

This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to PostgreSQL and SQL Server is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from PostgreSQL and SQL Server. As you would expect, this book shows how to build from scratch two different databases: PostgreSQL and SQL Server using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In chapter one, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In chapter two, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In chapter three, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. You will also learn how to create and store salt passwords and verify them. In chapter four, you will create a PostgreSQL database, named Bank, and its tables. In chapter five, you will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In chapter six, you will create an Account table. This account table has the following ten fields: account\_id (primary key), client\_id (primarykey), account\_number, account\_date, account\_type, plain\_balance, cipher\_balance, decipher\_balance, digital\_signature, and signature\_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In chapter seven, you create a table named Client\_Data, which has seven columns: client\_data\_id (primary key), account\_id

(primary\_key), birth\_date, address, mother\_name, telephone, and photo\_path. In chapter eight, you will be taught how to create a SQL Server database, named Crime, and its tables. In chapter nine, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter ten, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. In chapter eleven, you will be taught to create Java GUI to view, edit, insert, and delete Feature\_Extraction table data. This table has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter twelve, you will add two tables: Police\_Station and Investigator. These two tables will later be joined to Suspect table through another table, File\_Case, which will be built in the seventh chapter. The Police\_Station has six columns: police\_station\_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter thirteen, you will add two tables: Victim and File\_Case. The File\_Case table will connect four other tables: Suspect, Police\_Station, Investigator and Victim. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The File\_Case has seven columns: file\_case\_id (primary key), suspect\_id (foreign key), police\_station\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/PostgreSQL/SQL Server programmer.

#### **Troubleshooting CentOS** - Jonathan Hobson 2015-06-24

CentOS is the enterprise-grade Linux operating system built using the same source code as Red Hat Enterprise Linux (RHEL) to provide a free-to-use alternative to Red Hat's commercial Linux offering. The purpose of this book is to build on your understanding of CentOS and to explore those mission-critical services you are entrusted to manage and maintain. Starting with a brief introduction to the overall subject of troubleshooting a CentOS server, this book will take you on a journey across the whole spectrum of issue-based problem solving, which includes active processes, the networking environment, package management, users, folders, files, shared resources, security, databases, and web-based services. By the end of the book, you will have expert-level competency in identifying and diagnosing the root causes of CentOS storage, network, and administration issues and resolving them.

#### **POSTGRESQL FOR PYTHON GUI** - Vivian Siahaan 2019-08-15

This book is a Python/PostgreSQL version of the Python/MySQL book which was written by the author. What underlies the writing of this book is the growing popularity of the PostgreSQL database server lately and more and more programmers migrating from MySQL to PostgreSQL. In this book, you will learn to build a school database project, step by step. A number of widgets from PyQt will be used for the user interface. In the first and second chapter, you will get introduction of postgresql. And then, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In the fourth chapter, you will study: Creating the initial three table in the School database project: Teacher table, Class table, and Subject table; Creating database configuration files; Creating a Python GUI for viewing and navigating the contents of each table. Creating a Python GUI for inserting and editing tables; and Creating a Python GUI to merge and query the three tables. In last chapter, you will learn: Creating the main form to connect all forms; Creating a project that will add three more tables to the school database: the Student table, the Parent table, and the Tuition table; Creating a Python GUI to view and navigate the contents of each table; Creating a Python GUI for editing, inserting, and deleting records in each table; Create a Python GUI to merge and query the three tables and all six tables.

#### **Troubleshooting OpenStack** - Tony Campbell 2016-03-22

Get unstuck and start stacking! About This Book Easily fix the nagging problems that commonly plague OpenStack and become the go-to person in your organization Get better equipped to troubleshoot and solve common problems in performance, availability, and automation that confront production-ready OpenStack environments Save time and decrease frustration by solving significant issues that arise from OpenStack deployments pertaining to storage and networking Who This Book Is For You will need a basic understanding of OpenStack, Linux, and Cloud computing. If you have an understanding of Linux, this book will help you leverage that knowledge in the world of OpenStack, giving you confidence to tackle most issues that may arise. What You Will Learn Diagnose and remediate authentication and authorization problems in Keystone Fix common issues with images served through Glance Master the art of troubleshooting Neutron networking Navigate and overcome problems with Nova Troubleshoot and resolve Cinder block storage issues Identify and correct Swift object storage problems Isolate and fix issues caused by Heat orchestration Leverage Ceilometer and other metering and monitoring tools for effective troubleshooting In Detail OpenStack is a collection of software projects that work together to provide a cloud fabric. OpenStack is one of the fastest growing open source projects in history that unlocks cloud computing for everyone. With OpenStack, you are able to create public or private clouds on your own hardware. The flexibility and control afforded by OpenStack puts the cloud within reach of anyone willing to learn this technology. Starting with an introduction to OpenStack troubleshooting tools, we'll walk through each OpenStack service and how you can quickly diagnose, troubleshoot, and correct problems in your OpenStack. Understanding the various projects and how they interact is essential for anyone attempting to troubleshoot an OpenStack cloud. We will start by explaining each of the major components and the dependencies between them, and move on to show you how to identify and utilize an effective set of OpenStack troubleshooting tools and fix common Keystone problems. Next, we will expose you to common errors and problems you may encounter when using the OpenStack Block Storage service (Cinder). We will then examine Heat, the OpenStack Orchestration Service, where you will learn how to trace errors, determine their root cause, and effectively correct the issue. Finally, you will get to know the best practices to architect your OpenStack cloud in order to achieve optimal performance, availability, and reliability. Style and approach This is straight-to-the point guide to fixing your OpenStack cluster. Common problems are identified and suggestions to resolve these problems are presented in a simple, easy-to-understand manner.

#### **POSTGRESQL FOR JAVA GUI: Database and Image Processing** - Vivian Siahaan 2019-08-27

In this book, you will learn how to build from scratch a criminal records management database system using Java/PostgreSQL. All Java code for digital image processing in this book is Native Java. Intentionally not to rely on external libraries, so that readers know in detail the process of extracting digital images from scratch in Java. There are only three external libraries used in this book: Connector / J to facilitate Java to MySQL connections, JCalendar to display calendar controls, and JFreeChart to display graphics. Digital image techniques to extract image features used in this book are grascaling, sharpening, inverting, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second chapter, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In third chapter, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In the fourth chapter,

you will be taught how to create Crime database and its tables. In the fifth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. In the sixth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Feature\_Extraction table data. This table has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In the seventh chapter, you will add two tables: Police\_Station and Investigator. These two tables will later be joined to Suspect table through another table, File\_Case, which will be built in the seventh chapter. The Police\_Station has six columns: police\_station\_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In the eighth chapter, you will add two tables: Victim and File\_Case. The File\_Case table will connect four other tables: Suspect, Police\_Station, Investigator and Victim. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The File\_Case has seven columns: file\_case\_id (primary key), suspect\_id (foreign key), police\_station\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful for you.

#### **SELinux System Administration** - Sven Vermeulen 2020-12-04

Enhance Linux security, application platforms, and virtualization solutions with SELinux 3 to work within your boundaries, your rules, and your policies Key Features Learn what SELinux is, and how it acts as a mandatory access control system on Linux Apply and tune SELinux enforcement to users, applications, platforms, and virtualization solutions Use real-life examples and custom policies to strengthen the security posture of your systems Book Description Linux is a dominant player in many organizations and in the cloud. Securing the Linux environment is extremely important for any organization, and Security-Enhanced Linux (SELinux) acts as an additional layer to Linux system security. SELinux System Administration covers basic SELinux concepts and shows you how to enhance Linux system protection measures. You will get to grips with SELinux and understand how it is integrated. As you progress, you'll get hands-on experience of tuning and configuring SELinux and integrating it into day-to-day administration tasks such as user management, network management, and application maintenance. Platforms such as Kubernetes, system services like systemd, and virtualization solutions like libvirt and Xen, all of which offer SELinux-specific controls, will be explained effectively so that you understand how to apply and configure SELinux within these applications. If applications do not exert the expected behavior, you'll learn how to fine-tune policies to securely host these applications. In case no policies exist, the book will guide you through developing custom policies on your own. By the end of this Linux book, you'll be able to harden any Linux system using SELinux to suit your needs and fine-tune existing policies and develop custom ones to protect any app and service running on your Linux systems. What you will learn Understand what SELinux is and how it is integrated into Linux Tune Linux security using policies and their configurable settings Manage Linux users with least-privilege roles and access controls Use SELinux controls in system services and virtualization solutions Analyze SELinux behavior through log events and policy analysis tools Protect systems against unexpected and malicious behavior Enhance existing policies or develop custom ones Who this book is for This Linux sysadmin book is for Linux administrators who want to control the secure state of their systems using SELinux, and for security professionals who have experience in maintaining a Linux system and want to know about SELinux. Experience in maintaining Linux systems, covering user management, software installation and maintenance, Linux security controls, and network configuration is required to get the most out of this book.

#### **A PROGRESSIVE TUTORIAL TO DATABASE PROGRAMMING WITH PYTHON GUI AND**

#### **POSTGRESQL** - Vivian Siahaan 2020-01-03

In this book, you will create two desktop applications using Python GUI and PostgreSQL. This book is a Python/PostgreSQL version of the Python/MySQL book which was written by the author. What underlies the

writing of this book is the growing popularity of the PostgreSQL database server lately and more and more programmers migrating from MySQL to PostgreSQL. In this book, you will learn to build a school database project, step by step. A number of widgets from PyQt will be used for the user interface. In the first and second chapter, you will get introduction of postgresql. And then, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In the fourth chapter, you will study: Creating the initial three table in the School database project: Teacher table, Class table, and Subject table; Creating database configuration files; Creating a Python GUI for viewing and navigating the contents of each table. Creating a Python GUI for inserting and editing tables; and Creating a Python GUI to merge and query the three tables. In chapter five, you will learn: Creating the main form to connect all forms; Creating a project that will add three more tables to the school database: the Student table, the Parent table, and the Tuition table; Creating a Python GUI to view and navigate the contents of each table; Creating a Python GUI for editing, inserting, and deleting records in each table; Create a Python GUI to merge and query the three tables and all six tables. In chapter six, you will create dan configure PotgreSQL database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature\_Extraction, which has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police\_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter nine, you will create two tables, Victim and Case\_File. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The Case\_File table has seven columns: case\_file\_id (primary key), suspect\_id (foreign key), police\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

#### **Postgresql 9 Administration Cookbook Lite** - Simon Riggs 2011-04-01

In Detail PostgreSQL is a powerful, open source, enterprise database. This PostgreSQL 9 Administration Cookbook LITE book describes key aspects of the PostgreSQL open source database system. The book will help a sysadmin or DBA with key administration issues in PostgreSQL: configuration, monitoring and diagnosis, and setting up regular maintenance. This hands-on guide will assist developers working on live databases supporting web or enterprise software applications. To find out more about upgrading to the full edition, visit [www.packtpub.com/lite-editions](http://www.packtpub.com/lite-editions) and log into your account for offers and help. If you don't have an account on PacktPub.com, visit today and set one up! Approach 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. Who this book is for 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 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.

*PostgreSQL High Availability Cookbook - Second Edition* - Shaun M. Thomas 2017-01-31

Over 100 recipes to design and implement a highly available server with the advanced features of PostgreSQL 9.4, 9.5 and 9.6

**About This Book\*** Create a PostgreSQL cluster that stays online even when disaster strikes\* Avoid costly downtime and data loss that can ruin your business\* Updated to include the newest features introduced in PostgreSQL 9.6 with hands-on industry-driven recipes

**Who This Book Is For** If you are a PostgreSQL DBA working on Linux systems who want a database that never gives up, this book is for you. If you've ever experienced a database outage, restored from a backup, spent hours trying to repair a malfunctioning cluster, or simply want to guarantee system stability, this book is definitely for you.

**What you will learn\*** Protect your data with PostgreSQL replication and management tools such as Slony, Bucardo, pglogical, and WAL-E\* Hardware planning to help your database run efficiently\* Prepare for catastrophes and prevent them before they happen\* Reduce database resource contention with connection pooling using pgpool and PgBouncer\* Automate monitoring and alerts to visualize cluster activity using Nagios and collected\* Construct a robust software stack that can detect and fix outages\* Learn simple PostgreSQL High Availability with Patroni, or dive into the full power of Pacemaker.

**In Detail** Databases are nothing without the data they store. In the event of a failure - catastrophic or otherwise - immediate recovery is essential. By carefully combining multiple servers, it's even possible to hide the fact a failure occurred at all. From hardware selection to software stacks and horizontal scalability, this book will help you build a versatile PostgreSQL cluster that will survive crashes, resist data corruption, and grow smoothly with customer demand. It all begins with hardware selection for the skeleton of an efficient PostgreSQL database cluster. Then it's on to preventing downtime as well as troubleshooting some real life problems that administrators commonly face. Next, we add database monitoring to the stack, using collectd, Nagios, and Graphite. And no stack is complete without replication using multiple internal and external tools, including the newly released pglogical extension. Pacemaker or Raft consensus tools are the final piece to grant the cluster the ability to heal itself. We even round off by tackling the complex problem of data scalability. This book exploits many new features introduced in PostgreSQL 9.6 to make the database more efficient and adaptive, and most importantly, keep it running.

**The Ultimate Guide to Professional Database Programming with Python and PostgreSQL** - Vivian Siahaan 2019-01-15

Python has various database drivers for PostgreSQL. Currently, the psycopg is the most popular PostgreSQL database adapter for the Python language. The psycopg fully implements the Python DB-API 2.0 specification. The current version of the psycopg is 2 or psycopg2. The psycopg2 database adapter implemented in C as a libpq wrapper resulting in both fast and secure. The psycopg2 provides many useful features such as client-side and server-side cursors, asynchronous notification and communication, COPY command support, etc. PostgreSQL was designed to run on UNIX-like platforms. However, PostgreSQL was then also designed to be portable so that it could run on various platforms such as Mac OS X, Solaris, and Windows. PostgreSQL is free and open source software. Its source code is available under PostgreSQL license, a liberal open source license. You are free to use, modify and distribute PostgreSQL in any form. PostgreSQL requires very minimum maintained efforts because of its stability. Therefore, if you develop applications based on PostgreSQL, the total cost of ownership is low in comparison with other database management systems. In Chapter 2, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In Chapter 3, you will learn managing table structure and views including postgresql data types, postgresql create table, postgresql select into statement, postgresql create table as, using postgresql serial to create auto-increment column, identity column, alter table, drop table, truncate table, check constraint, not-null constraint, foreign key, primary key, unique constraint, managing postgresql views, creating updatable views, materialized views, creating updatable views using the with check option clause, and recursive view. In Chapter 4, you will learn statements, operators, and clauses including select, order by, select distinct, limit, fetch, in, between,

postgresql like, is null, alias, joins, inner join, postgresql left join, self-join, full outer join, cross join, natural join, group by, having, intersect operator, except operator, grouping sets, cube, and rollup. In Chapter 5, you will learn postgresql trigger, aggregate, and string functions including creating the first trigger in postgresql, managing postgresql trigger, aggregate functions, avg function, max function, min function, sum function, postgresql concat function, ascii function, trim function, length function, substring function, regexp\_matches function, regexp\_replace function, replace function, to\_number function, and to\_char function.

**PostgreSQL 8.4 Official Documentation - Volume II. Server Administration** - The Postgresql Global Development Group 2009-08

Welcome to the "PostgreSQL 8.4 Official Documentation - Volume II. Server Administration"! After many years of development, PostgreSQL has become feature-complete in many areas. This release shows a targeted approach to adding features (e.g., authentication, monitoring, space reuse), and adds capabilities defined in the later SQL standards.

**PostgreSQL Development Essentials** - Baji Shaik 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 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, constraints, 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.

*Troubleshooting PostgreSQL* - Hans-Jurgen Schonig 2015-03-30

If you are a database administrator looking for solutions to common PostgreSQL problems, this is the book for you. The book is suitable for people with intermediate and professional expertise.

**Mastering PostgreSQL 11** - Hans-Jürgen Schönig 2018-10-30

Master the capabilities of PostgreSQL 11 to efficiently manage and maintain your database Key Features Master advanced concepts of PostgreSQL 11 with real-world datasets and examples Explore query parallelism, data replication, and database performance while working with larger datasets Extend the functionalities of your PostgreSQL instance to suit your organization's needs with minimal effort Book 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 learn Get to grips with advanced PostgreSQL 11 features and SQL functions 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 Perform database migration from MySQL and Oracle to PostgreSQL with ease Who 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.

**PostgreSQL 10 Administration Cookbook** - Gianni Ciolli 2018-05-18

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.

**The Beginner's Guide to Learn Python GUI with PostgreSQL and SQLite** - Vivian Siahaan 2020-01-15

This book explains relational theory in practice, and demonstrates through two projects how you can apply it to your use of PostgreSQL and SQLite databases. This book covers the important requirements of teaching databases with a practical and progressive perspective. This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to PostgreSQL and SQLite is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from both databases. In designing a GUI and as an IDE, you will make use Qt Designer. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In chapter three, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In chapter four, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six and chapter seven, you will get introduction of postgresql. And then, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In chapter eight, you will create dan configure PotgreSQL database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter nine, you will create a table with the name Feature\_Extraction, which has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit,

insert, and delete for this table. In chapter ten, you will create two tables, Police and Investigator. The Police table has six columns: police\_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter eleven, you will create two tables, Victim and Case\_File. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The Case\_File table has seven columns: case\_file\_id (primary key), suspect\_id (foreign key), police\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

### **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 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.

### **The Fast Way to Learn Java GUI with PostgreSQL and SQLite** - Vivian Siahaan 2020-01-15

This step-by-step guide to explore database programming using Java is ideal for people with little or no programming experience. The goal of this concise book is not just to teach you Java, but to help you think like a programmer. Each brief chapter covers the material for one week of a college course to help you practice what you've learned. As you would expect, this book shows how to build from scratch two different databases: PostgreSQL and SQLite using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second chapter, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object,

querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In chapter three, you will create a PostgreSQL database, named School, and its tables. In chapter four, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter five, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In chapter six, you will study how to query the six tables. In chapter seven, you will be shown how to create SQLite database and tables with Java. In chapter eight, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. Digital image techniques to extract image features used in this chapter are grascaling, sharpening, inverting, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In chapter nine, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. In chapter ten, you will be taught to create Java GUI to view, edit, insert, and delete Feature\_Extraction table data. This table has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In chapter eleven, you will add two tables: Police\_Station and Investigator. These two tables will later be joined to Suspect table through another table, File\_Case, which will be built in the seventh chapter. The Police\_Station has six columns: police\_station\_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter twelve, you will add two tables: Victim and Case\_File. The File\_Case table will connect four other tables: Suspect, Police\_Station, Investigator and Victim. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The Case\_File has seven columns: case\_file\_id (primary key), suspect\_id (foreign key), police\_station\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/PostgreSQL/SQLite programmer.

### **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.

*Java In Action: An Excellent Guide to Explore JDBC And Database Applications* - Vivian Siahaan 2019-11-27  
This step-by-step guide to explore database programming using Java is ideal for people with little or no programming experience. The goal of this concise book is not just to teach you Java, but to help you think like a programmer. Each brief chapter covers the material for one week of a college course to help you practice what you've learned. As you would expect, this book shows how to build from scratch two different databases: PostgreSQL and SQLite using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second chapter, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In chapter three, you will create a PostgreSQL database, named School, and its tables. In chapter four, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter five, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In chapter six, you will study how to query the six tables. In chapter seven, you will be shown how to create SQLite database and tables with Java. In chapter eight, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. Digital image techniques to extract image features used in this chapter are grascaling, sharpening, inverting, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In chapter nine, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. In chapter ten, you will be taught to create Java GUI to view, edit, insert, and delete Feature\_Extraction table data. This table has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this

table. In chapter eleven, you will add two tables: Police\_Station and Investigator. These two tables will later be joined to Suspect table through another table, File\_Case, which will be built in the seventh chapter. The Police\_Station has six columns: police\_station\_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter twelve, you will add two tables: Victim and Case\_File. The File\_Case table will connect four other tables: Suspect, Police\_Station, Investigator and Victim. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The Case\_File has seven columns: case\_file\_id (primary key), suspect\_id (foreign key), police\_station\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/PostgreSQL/SQLite programmer.

**The Best Guide to Database Programming with Java GUI, PostgreSQL, and SQL Server** - Vivian Siahaan 2020-01-13

This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to PostgreSQL and SQL Server is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from PostgreSQL and SQL Server. As you would expect, this book shows how to build from scratch two different databases: PostgreSQL and SQL Server using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In chapter one, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In chapter two, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In chapter three, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. You will also learn how to create and store salt passwords and verify them. In chapter four, you will create a PostgreSQL database, named Bank, and its tables. In chapter five, you will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In chapter six, you will create an Account table. This account table has the following ten fields: account\_id (primary key), client\_id (primarykey), account\_number, account\_date, account\_type, plain\_balance, cipher\_balance, decipher\_balance, digital\_signature, and signature\_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In chapter seven, you create a table named Client\_Data, which has seven columns: client\_data\_id (primary key), account\_id (primary\_key), birth\_date, address, mother\_name, telephone, and photo\_path. In chapter eight, you will be taught how to create a SQL Server database, named Crime, and its tables. In chapter nine, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter ten, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect\_id (primary key), suspect\_name, birth\_date, case\_date, report\_date, suspect\_status, arrest\_date, mother\_name, address, telephone, and photo. In chapter eleven, you will be taught to create Java GUI to view, edit, insert, and delete Feature\_Extraction table data. This table has eight columns: feature\_id (primary key), suspect\_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter twelve, you will add two tables: Police\_Station and Investigator. These two tables will later be joined to Suspect table through another table, File\_Case, which will be built in the seventh chapter. The

Police\_Station has six columns: police\_station\_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator\_id (primary key), investigator\_name, rank, birth\_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter thirteen, you will add two tables: Victim and File\_Case. The File\_Case table will connect four other tables: Suspect, Police\_Station, Investigator and Victim. The Victim table has nine columns: victim\_id (primary key), victim\_name, crime\_type, birth\_date, crime\_date, gender, address, telephone, and photo. The File\_Case has seven columns: file\_case\_id (primary key), suspect\_id (foreign key), police\_station\_id (foreign key), investigator\_id (foreign key), victim\_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/PostgreSQL/SQL Server programmer.

Troubleshooting Ruby Processes - Philippe Hanrigou 2007-10-29

This is the eBook version of the printed book. This short cut introduces key system diagnostic tools to Ruby developers creating and deploying web applications. When programmers develop a Ruby application they commonly experience complex problems which require some understanding of the underlying operating system to be solved. Difficult to diagnose, these problems can make the difference between a project's failure or success. This short cut demonstrates how to leverage system tools available on Mac OS X, Linux, Solaris, BSD or any other Unix flavor. You will learn how to leverage the raw power of tools such as lsof, strace or gdb to resolve problems that are difficult to diagnose with the standard Ruby development tools. You will also find concrete examples that illustrate how these tools solve real-life problems in Ruby development. This expertise will prove especially relevant during the deployment phase of your application. In this way, should your production Mongrel cluster freeze and stop serving HTTP requests, it will not take you 2 days to figure out why!