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# Essential SQLAlchemy

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Essential Tools and Best Practices for Deploying Code to Production  
 Create GUI Applications with Python & Qt5 (PySide2 Edition)  
 MongoDB Applied Design Patterns  
 The hands-on guide to making apps with Python  
 Practical SQL  
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Essential SQLAlchemy

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## SANIYA GONZALEZ

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### Essential Tools and Best Practices for Deploying Code to Production

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Understanding SQL's underlying theory is the best way to guarantee that your SQL code is correct and your database schema is robust and maintainable. On the other hand, if you're not well versed in the theory, you can fall into several traps. In *SQL and Relational Theory*, author C.J. Date demonstrates how you can apply relational theory directly to your use of SQL. With numerous examples and clear explanations of the reasoning behind them, you'll learn how to deal with common SQL dilemmas, such as: Should database access be granted through views instead of base tables? Nulls in your database are causing you to get wrong answers. Why? What can you do about it? Could you write an SQL query to find employees who have never been in the same department for more than six months at a time? SQL supports "quantified comparisons," but they're better avoided. Why? How do you avoid them? Constraints are crucially important, but most SQL products don't support them properly. What can you do to resolve this situation? Database theory and

practice have evolved since Edgar Codd originally defined the relational model back in 1969. Independent of any SQL products, *SQL and Relational Theory* draws on decades of research to present the most up-to-date treatment of the material available anywhere. Anyone with a modest to advanced background in SQL will benefit from the many insights in this book.

[Create GUI Applications with Python & Qt5 \(PySide2 Edition\)](#)  
"O'Reilly Media, Inc."

Building desktop applications doesn't have to be difficult. Using Python & Qt5 you can create fully functional desktop apps in minutes. This is the 4th Edition of *Create GUI Applications*, updated for 2020 & PySide2. Starting from the very basics, this book takes you on a tour of the key features of PySide2 you can use to build real-life applications. Learn the fundamental building blocks of Qt applications — Widgets, Layouts & Signals and learn how Qt uses the event loop to handle and respond to user input. Design beautiful UIs with Qt Designer and customize the look and feel of your applications with Qt Style Sheets and custom widgets. Use Qt's MVC-like ModelViews framework to connect data sources to your widgets, including SQL databases, numpy and pandas data tables, to build data driven application. Visualize data using matplotlib & PyQtGraph and connect with external data sources to build live dashboards. Learn how to use threads

and processes to manage long-running tasks and communicate with external services. Parse data and visualize the output in logs and progress bars. The book includes usability and architectural tips to help you build maintainable and usable PySide2 applications from the start. Finally, once your application is ready to be released, discover how to package it up into professional-quality installers, ready to ship. The book includes - 665 pages of hands-on PySide2 exercises - 211 code examples to experiment with - Support forum for all readers - Includes 4 example apps - Compatible with Python 3.4+ - Code free to reuse in your own projects

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

**The hands-on guide to making apps with Python** Mercury Learning and Information

Gain expertise in Flask to create dynamic and powerful web applications About This Book Work with scalable Flask application structures to create complex web apps Discover the most powerful Flask extensions and learn how to create one Deploy your application to real-world platforms using this step-by-step guide Who This Book Is For If you are a Flask user who knows the basics of the library and how to create basic web pages with HTML and CSS, and you want to take your applications to the next level, this is the book for you. Harnessing the full power of Flask will allow you to create complex web applications with ease. What You Will Learn Set up a best practices Python environment Use SQLAlchemy to programmatically query a database Develop templates in Jinja Set up an MVC environment for Flask Discover NoSQL, when to use it, when not to, and how to use it Develop a custom Flask extension Use Celery to create asynchronous tasks In Detail Flask is a library that allows programmers to create web applications in Python. Flask is a micro-framework that boasts a low learning curve, a large community, and the power to create complex web apps. However, Flask is easy to learn but difficult to master. Starting from a simple Flask app, this book will walk through advanced topics while providing practical examples of the lessons learned. After building a simple Flask app, a proper app structure is demonstrated by transforming the app to use a Model-View-Controller (MVC) architecture. With a scalable structure in hand, the next chapters use Flask extensions to provide extra functionality to the app, including user login and registration, NoSQL querying, a REST API, an admin interface, and more. Next, you'll discover how to use unit testing to take the guesswork away from making sure the code is performing as it should. The book closes with a discussion of the different platforms that are available to deploy a Flask app on, the pros

and cons of each one, and how to deploy on each one. Style and approach With plenty of useful examples, this guide introduces new concepts and then shows you how those concepts can be used in a real-world environment. Most sections are based around a single example app that is developed throughout the book.

*Practical SQL* Apress

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

**Essential SQLAlchemy** Packt Publishing Ltd

Get complete instructions for manipulating, processing, cleaning, and crunching datasets in Python. Updated for Python 3.6, the second edition of this hands-on guide is packed with practical case studies that show you how to solve a broad set of data analysis problems effectively. You'll learn the latest versions of pandas, NumPy, IPython, and Jupyter in the process. Written by Wes McKinney, the creator of the Python pandas project, this book is a practical, modern introduction to data science tools in Python. It's ideal for analysts new to Python and for Python programmers new to data science and scientific computing. Data files and related material are available on GitHub. Use the IPython shell and Jupyter notebook for exploratory computing Learn basic and advanced features in NumPy (Numerical Python) Get started with data analysis tools in the pandas library Use flexible tools to load, clean, transform, merge, and reshape data Create informative visualizations with matplotlib Apply the pandas groupby facility to slice, dice, and summarize datasets Analyze and manipulate regular and irregular time series data Learn how to solve real-world data analysis problems with thorough, detailed examples

*SQL and NoSQL Data Storage Using MySQL for Python*

Programmers O'Reilly Media

Whether you're building GUI prototypes or full-fledged cross-platform GUI applications with native look-and-feel, PyQt 4 is your fastest, easiest, most powerful solution. Qt expert Mark Summerfield has written the definitive best-practice guide to PyQt 4 development. With *Rapid GUI Programming with Python and Qt* you'll learn how to build efficient GUI applications that run on all major operating systems, including Windows, Mac OS X, Linux, and many versions of Unix, using the same source code for all of them. Summerfield systematically introduces every core GUI development technique: from dialogs and windows to data

handling; from events to printing; and more. Through the book's realistic examples you'll discover a completely new PyQt 4-based programming approach, as well as coverage of many new topics, from PyQt 4's rich text engine to advanced model/view and graphics/view programming. Every key concept is illuminated with realistic, downloadable examples—all tested on Windows, Mac OS X, and Linux with Python 2.5, Qt 4.2, and PyQt 4.2, and on Windows and Linux with Qt 4.3 and PyQt 4.3.

*The Essentials* John Wiley & Sons

The easy way to learn programming fundamentals with Python Python is a remarkably powerful and dynamic programming language that's used in a wide variety of application domains. Some of its key distinguishing features include a very clear, readable syntax, strong introspection capabilities, intuitive object orientation, and natural expression of procedural code. Plus, Python features full modularity, supporting hierarchical packages, exception-based error handling, and modules easily written in C, C++, Java, R, or .NET languages, such as C#. In addition, Python supports a number of coding styles that include: functional, imperative, object-oriented, and procedural. Due to its ease of use and flexibility, Python is constantly growing in popularity—and now you can wear your programming hat with pride and join the ranks of the pros with the help of this guide. Inside, expert author John Paul Mueller gives a complete step-by-step overview of all there is to know about Python. From performing common and advanced tasks, to collecting data, to interacting with package—this book covers it all! Use Python to create and run your first application Find out how to troubleshoot and fix errors Learn to work with Anaconda and use Magic Functions Benefit from completely updated and revised information since the last edition If you've never used Python or are new to programming in general, *Beginning Programming with Python For Dummies* is a helpful resource that will set you up for success.

*Essential SQLAlchemy* "O'Reilly Media, Inc."

Build state-of-the-art web applications quickly and efficiently using Flask and related technologies with Python 3 Key Features Updated to Flask 1.0.3 and Python 3.7 with coverage of Microservices Get the most out of the powerful Flask framework and maintain the flexibility of your design choices Write cleaner and maintainable code with the help of sample apps Book Description Flask, the lightweight Python web framework, is popular due to its powerful modular design that lets you build scalable web apps. With this recipe-based guide, you'll explore modern solutions and best practices for Flask web development. Updated to the latest version of Flask and Python 3, this second edition of *Flask Framework Cookbook* moves away from some of the old and obsolete libraries and introduces recipes on bleeding edge technologies. You'll discover different ways of using Flask to create, deploy, and manage microservices. This *Flask Python* book starts by covering the different configurations that a Flask application can make use of, and then helps you work with templates and learn about the ORM and view layers. You'll also be able to write an admin interface and get to grips with debugging and logging errors. Finally, you'll grasp a variety of deployment and post-deployment techniques for platforms such as Apache, Tornado, and Heroku. By the end of this book, you'll have gained all the knowledge you need to write Flask applications in the best possible way and scale them using standard industry practices. What you will learn Explore web application development in Flask, right from installation to post-deployment stages Make use of advanced templating and data modeling techniques Discover effective debugging, logging, and error handling techniques in Flask Integrate Flask with different technologies such as Redis, Sentry, and MongoDB Deploy and

package Flask applications with Docker and Kubernetes Design scalable microservice architecture using AWS Lambda Continuous integration and Continuous deployment Who this book is for If you are a web developer who wants to learn more about developing scalable and production-ready applications in Flask, this is the book for you. You'll also find this book useful if you are already aware of Flask's major extensions and want to use them for better application development. Basic Python programming experience along with basic understanding of Flask is assumed. **Create Python Web Services with MySQL** "O'Reilly Media, Inc."

This is a practical, tutorial-style book that includes many examples to demonstrate the full potential of MySQL for Python. Every chapter starts with an explanation of the various areas for using MySQL for Python and ends with work on a sample application using the programming calls just learned. All complicated concepts are broken down to be very easy to understand. Everything in the book is designed to help you learn and use MySQL for Python to address your programming needs in the fastest way possible. This book is meant for intermediate users of Python who want hassle-free access to their MySQL database through Python. If you are a Python programmer who wants database-support in your Python applications, then this book is for you. This book is a must-read for every focused user of the MySQL for Python library who wants real-world applications using this powerful combination of Python and MySQL.

*SQL and Relational Theory* Packt Publishing Ltd

Whether you're building a social media site or an internal-use enterprise application, this hands-on guide shows you the connection between MongoDB and the business problems it's designed to solve. You'll learn how to apply MongoDB design patterns to several challenging domains, such as ecommerce, content management, and online gaming. Using Python and JavaScript code examples, you'll discover how MongoDB lets you scale your data model while simplifying the development process. Many businesses launch NoSQL databases without understanding the techniques for using their features most effectively. This book demonstrates the benefits of document embedding, polymorphic schemas, and other MongoDB patterns for tackling specific big data use cases, including: Operational intelligence: Perform real-time analytics of business data Ecommerce: Use MongoDB as a product catalog master or inventory management system Content management: Learn methods for storing content nodes, binary assets, and discussions Online advertising networks: Apply techniques for frequency capping ad impressions, and keyword targeting and bidding Social networking: Learn how to store a complex social graph, modeled after Google+ Online gaming: Provide concurrent access to character and world data for a multiplayer role-playing game *The Hacker's Guide to Scaling Python* Packt Publishing Ltd Dive into SQLAlchemy, the popular, open-source code library that helps Python programmers work with relational databases such as Oracle, MySQL, PostgreSQL, and SQLite. Using real-world examples, this practical guide shows you how to build a simple database application with SQLAlchemy, and how to connect to multiple databases simultaneously with the same metadata. SQL is a powerful language for querying and manipulating data, but it's tough to integrate it with your application. SQLAlchemy helps you map Python objects to database tables without substantially changing your existing Python code. If you're an intermediate Python developer with knowledge of basic SQL syntax and relational theory, this book serves as both a learning tool and a handy reference. *Essential SQLAlchemy* includes several sections: SQLAlchemy Core: Provide database services to your applications in a Pythonic way with the SQL Expression Language SQLAlchemy

ORM: Use the object relational mapper to bind database schema and operations to data objects in your application Alembic: Use this lightweight database migration tool to handle changes to the database as your application evolves Cookbook: Learn how to use SQLAlchemy with web frameworks like Flask and libraries like SQLAlchemycodegen

Addison-Wesley Professional

This book delivers insider knowledge of the entire SQLAlchemy feature set. Basic to advanced topics are covered.

**Mastering Flask** "O'Reilly Media, Inc."

Class-tested and coherent, this textbook teaches classical and web information retrieval, including web search and the related areas of text classification and text clustering from basic concepts. It gives an up-to-date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents; methods for evaluating systems; and an introduction to the use of machine learning methods on text collections. All the important ideas are explained using examples and figures, making it perfect for introductory courses in information retrieval for advanced undergraduates and graduate students in computer science. Based on feedback from extensive classroom experience, the book has been carefully structured in order to make teaching more natural and effective. Slides and additional exercises (with solutions for lecturers) are also available through the book's supporting website to help course instructors prepare their lectures.

How to Write Accurate SQL Code Simon and Schuster

This new edition of Essential SQLAlchemy is the tool developers need to understand the technology. Rather than being a simple tutorial or API reference, this book builds an application step by step. This application is comprised of many of the most common usages of SQLAlchemy, thus showing how to manage complexity and engaging in real world examples. Using easy, common language, the authors teach you how to turn knowledge into usable work.

**Database Access Using Python** Packt Publishing Ltd

Move data back and forth between database and application. The must-have knowledge in this book helps programmers learn how to use the official driver, MySQL Connector/Python, by which Python programs communicate with the MySQL database. This book takes you from the initial installation of the connector through basic query execution, then through more advanced topics, error handling, and troubleshooting. The book covers both the traditional API as well as the new X DevAPI. The X DevAPI is part of MySQL 8.0 and is an API that can be used with connectors for several programming languages and is used from the command-line interface known as MySQL Shell. You will learn to use the connector by working through code examples and following a discussion of how the API calls work. By the end of the book, you will be able to use MySQL as the back-end storage for your Python programs, and you'll even have the option of choosing between SQL and NoSQL interfaces. What You'll Learn Install MySQL Connector/Python Connect to MySQL and configure database access Execute SQL and NoSQL queries from your Python program Trap errors and troubleshoot problems Store data from different languages using MySQL's character set support Work in the X DevAPI that underlies all of MySQL's language connectors Who This Book Is For Developers familiar with Python who are looking at using MySQL as the back-end database. No prior knowledge of Connector/Python is assumed, but readers should be familiar with databases and the Python programming language.

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*Python Requests Essentials* Packt Publishing Ltd

Python is a wonderful programming language that allows writing applications quickly. But how do you make those applications scale for thousands of users and requests? It takes years of practice, research, trial and errors to build experience and knowledge along the way. Simple questions such as "How do I make my code faster?" or "How do I make sure there is no bottleneck?" cost hours to find good answers. Without enough background on the topic, you'll never be sure that any answer you'll come up with will be correct. The Hacker's Guide to Scaling Python will help you solve that by providing guidelines, tips and best practice. Adding a few interviews of experts on the subject, you will learn how you can distribute your Python application so it is able to process thousands of requests.

Advanced Algorithms and Data Structures No Starch Press

Continuous delivery adds enormous value to the business and the entire software delivery lifecycle, but adopting this practice means mastering new skills typically outside of a developer's comfort zone. In this practical book, Daniel Bryant and Abraham Marín-Pérez provide guidance to help experienced Java developers master skills such as architectural design, automated quality assurance, and application packaging and deployment on a variety of platforms. Not only will you learn how to create a comprehensive build pipeline for continually delivering effective software, but you'll also explore how Java application architecture and deployment platforms have affected the way we rapidly and safely deliver new software to production environments. Get advice for beginning or completing your migration to continuous delivery Design architecture to enable the continuous delivery of Java applications Build application artifacts including fat JARs, virtual machine images, and operating system container (Docker) images Use continuous integration tooling like Jenkins, PMD, and find-sec-bugs to automate code quality checks Create a comprehensive build pipeline and design software to separate the deploy and release processes Explore why functional and system quality attribute testing is vital from development to delivery Learn how to effectively build and test applications locally and observe your system while it runs in production

**SQLAlchemy** John Wiley & Sons

The Flask Mega-Tutorial is an overarching tutorial for Python beginner and intermediate developers that teaches web development with the Flask framework. The tutorial has been thoroughly revised and expanded in 2017, now containing 23 chapters. The concepts that are covered go well beyond Flask, including a wide range of topics Python web developers need to know when writing their own applications.

**Essential SNMP** Pearson Education

Python Essentials provides a vital tour of the most critical features of Python. Starting with setup and installation, you will soon dive into exploring built-in-library types, Python's rich collection of operators and built-in functions, variables, assignment and scoping rules. From this foundation, you will explore functions, a crucial aspect of any programming language, including considerable sophistication in defining parameters to a function and providing argument values. Explore advanced functional programming using generator expressions, comprehensions, and generator functions. Handle file input and output using web services and context managers, exception handling and explore wider, popular frameworks. Through this concise and practical guide, you will explore all you need to know to leverage this powerful, and industry-standard, programming language.