Understanding Mysql Internals

This book is aimed at system administrators/architects or DBAs who want to learn more about how to grow their current infrastructure to support larger traffic. Before beginning with this book, we expect you to be well-practiced with MySQL/MariaDB for common usage. You will be able to get a grasp quickly if you are comfortable with learning and building large infrastructures for MariaDB using Linux.

This comprehensive reference guide offers useful pointers for advanced use of SQL and describes the bugs and workarounds involved in compiling MySQL for every system.

Improve your ability to develop, manage, and troubleshoot SQL Server solutions by learning how different components work "under the hood," and how they communicate with each other. The detailed knowledge helps in implementing and maintaining high-throughput databases critical to your business and its customers. You'll learn how to identify the root cause of each problem and understand how different design and implementation decisions affect performance of your systems. New in this second edition is coverage of SQL Server 2016 Internals, including In-Memory OLTP, columnstore enhancements, Operational Analytics support, Query Store, JSON, temporal tables, stretch databases, security features, and other improvements in the new SQL Server version. The knowledge also can be applied to Microsoft Azure SQL Databases that share the same code with SQL Server 2016. Pro SQL Server Internals is a book for developers and database administrators, and it covers multiple SQL Server versions starting with SQL Server 2005 and going all the way up to the recently released SQL Server 2016. The book provides a solid road map for understanding the depth and power of the SQL Server database server and teaches how to get the most from the platform and keep your databases running at the level needed to support your business. The book: • Provides detailed knowledge of new SQL Server 2016 features and enhancements • Includes revamped coverage of columnstore indexes and In-Memory OLTP • Covers indexing and transaction strategies • Shows how various database objects and technologies are implemented internally, and when they should or should not be used • Demonstrates how SQL Server executes queries and works with data and transaction log What You Will Learn Design and develop database solutions with SQL Server. Troubleshoot design, concurrency, and performance issues. Choose the right database objects and technologies for the job. Reduce costs and improve availability and manageability. Design disaster recovery and high-availability strategies. Improve performance of OLTP and data warehouse systems through in-memory OLTP and Columnstore indexes. Who This Book Is For Developers and database administrators who want to design,

develop, and maintain systems in a way that gets the most from SQL Server. This book is an excellent choice for people who prefer to understand and fix the root cause of a problem rather than applying a 'band aid' to it.

Identify, analyze, and improve poorly performing queries that damage user experience and lead to lost revenue for your business. This book will help you make query tuning an integral part of your daily routine through a multi-step process that includes monitoring of execution times, identifying candidate queries for optimization, analyzing their current performance, and improving them to deliver results faster and with less overhead. Author Jesper Krogh systematically discusses each of these steps along with the data sources and the tools used to perform them. MySQL 8 Query Performance Tuning aims to help you improve query performance using a wide range of strategies. You will know how to analyze queries using both the traditional EXPLAIN command as well as the new EXPLAIN ANALYZE tool. You also will see how to use the Visual Explain feature to provide a visually-oriented view of an execution plan. Coverage of indexes includes indexing strategies and index statistics, and you will learn how histograms can be used to provide input on skewed data distributions that the optimizer can use to improve query performance. You will learn about locks, and how to investigate locking issues. And you will come away with an understanding of how the MySQL optimizer works, including the new hash join algorithm, and how to change the optimizer's behavior when needed to deliver faster execution times. You will gain the tools and skills needed to delight application users and to squeeze the most value from corporate computing resources. What You Will LearnMonitor query performance to identify poor performersChoose queries to optimize that will provide the greatest gainAnalyze queries using tools such as EXPLAIN ANALYZE and Visual ExplainImprove slow queries through a wide range of strategiesProperly deploy indexes and histograms to aid in creating fast execution plansUnderstand and analyze locks to resolve contention and increase throughput Who This Book Is For Database administrators and SQL developers who are familiar with MySQL and need to participate in query tuning. While some experience with MySQL is required, no prior knowledge of query performance tuning is needed.

Discovering and Improving a Great Database
Optimization, Backups, Replication, and More
Principles & Practice Using MySQL
Database Internals
Database Management Systems
Optimization, Backups, and Replication

A short guide for everyone on how to structure your data and set-up your MySQL database tables efficiently and easily.

You'll find several books on basic or advanced MySQL performance, but nothing in between. That's because explaining MySQL performance without addressing its complexity is difficult. This practical book bridges the gap by teaching software engineers mid-level MySQL knowledge beyond the fundamentals, but well shy of deep-level internals required by database administrators (DBAs). Daniel Nichter shows you how to apply the best practices and techniques that directly affect MySQL performance. You'll learn how to improve performance by analyzing query execution, indexing for common SQL clauses and table joins, optimizing data access, and understanding the most important MySQL metrics. You'll also discover how replication, transactions, row locking, and the cloud influenceMySQL performance. Understand why query response time is the North Star of MySQL performance Learn query metrics in detail, including aggregation, reporting, and analysis See how to index effectively for common SQL clauses and table joins Explore the most important server metrics and what they reveal about performance Dive into transactions and row locking to gain deep, actionable insight Achieve remarkable MySQL performance at any scale The implementation of stored procedures in MySQL 5.0 a hugemilestone -- one that is expected to lead to widespread enterprise adoption ofthe already extremely popular MySQL database. If you are serious aboutbuilding the web-based database applications of the future, you need toget up to speed quickly on how stored procedures work -- and how tobuild them the right way. This book, destined to be the bible of storedprocedure development, is a resource that no real MySQL programmer canafford to do without. In the decade since MySQL burst on the scene, it has become thedominant open source database, with capabilities and performancerivaling those of commercial RDBMS offerings like Oracle and SQLServer. Along with Linux and PHP, MySQL is at the heart of millions ofapplications. And now, with support for stored procedures, functions,and triggers in MySQL 5.0, MySQL offers the programming power neededfor true enterprise use. MySQL's new procedural language has a straightforward syntax, making iteasy to write simple programs. But it's not so easy to write secure,easily maintained, high-performance, and bug-free programs. Few in theMySQL world have substantial experience yet with stored procedures, butGuy Harrison and Steven Feuerstein have decades of combined expertise. In MySQL Stored Procedure Programming, they putthat hard-won experience to good use. Packed with code examples and coveringeverything from language basics to application building to advancedtuning and best practices, this highly readable book is the one-stopguide to MySQL development. It consists of four major sections: MySQL stored programming fundamentals -- tutorial, basicstatements, SQL in stored programs, and error handling Building MySQL stored programs -- transaction handling,built-in functions, stored functions, and triggers MySQL stored programs in applications -- using storedprograms

*with PHP, Java, Perl, Python, and .NET (C# and VB.NET) Optimizing MySQL stored programs -- security, basic andadvanced SQL tuning, optimizing stored program code, and programmingbest practices A companion web site contains many thousands of lines of code, that youcan put to use immediately. Guy Harrison is Chief Architect of Database Solutions at Quest Softwareand a frequent speaker and writer on MySQL topics. Steven Feuerstein isthe author of Oracle PL/SQL Programming, the classic reference for Oracle stored programming for more than ten years. Both have decades of experience as database developers, and between them they have authored a dozen books. * One of the first books to cover MySQL 5 in depth * Foregos reiteration of the basics found in other books, and concentrates on MySQL's advanced applications in enterprise environments * Doubles as a reference for users interested in having a thorough guide to configuration directives, commands, and features at their disposal*
Mastering MariaDB
Oracle Core: Essential Internals for DBAs and Developers
Learning SQL
Solutions for Database Developers and Administrators
MySQL High Availability
The Design and Implementation of Modern Column-Oriented Database Systems
Understanding MySQL InternalsDiscovering and Improving a Great Database"O'Reilly Media, Inc."
How can you bring out MySQL's full power? With High Performance MySQL, you'll learn advanced techniques for everything from designing schemas, indexes, and queries to tuning your MySQL server, operating system, and hardware to their fullest potential. This guide also teaches you safe and practical ways to scale applications through replication, load balancing, high availability, and failover. Updated to reflect recent advances in MySQL and InnoDB performance, features, and tools, this third edition not only offers specific examples of how MySQL works, it also teaches you why this system works as it does, with illustrative stories and case studies that demonstrate MySQL's principles in action. With this book, you'll learn how to think in MySQL. Learn the effects of new features in MySQL 5.5, including stored procedures, partitioned databases, triggers, and views Implement improvements in replication, high availability, and clustering Achieve high performance when running MySQL in the cloud Optimize advanced querying features, such as full-text searches Take advantage of modern multi-core CPUs and solid-state disks Explore backup and recovery strategies—including new tools for hot online backups
How can you realize MySQL's full power? With High Performance MySQL, you'll learn advanced techniques for everything from setting service-level objectives to designing schemas, indexes, and queries to tuning your server, operating system, and hardware to achieve your platform's full potential. This guide also teaches database administrators safe and practical ways to scale applications through replication, load balancing, high availability, and failover. Updated to reflect recent advances in cloud- and self-hosted MySQL, InnoDB performance, and new features and tools, this revised edition helps you design a relational data platform that will scale with your business. You'll learn best practices for database security along with hard-earned lessons in both performance and database stability. Dive into MySQL's

architecture, including key facts about its storage engines Learn how server configuration works with your hardware and deployment choices Make query performance part of your software delivery process Examine enhancements to MySQL's replication and high availability Compare different MySQL offerings in managed cloud environments Explore MySQL's full stack optimization from application-side configuration to server tuning Turn traditional database management tasks into automated processes

The authoritative, hands-on guide to advanced MySQL programming and administration techniques for high performance is here. MySQL Database Design and Tuning is the only guide with coverage of both the basics and advanced topics, including reliability, performance, optimization and tuning for MySQL. This clear, concise and unique source for the most reliable MySQL performance information will show you how to: Deploy the right MySQL product for your performance needs. Set up a performance management and monitoring environment using tools from MySQL. Implement the right indexing strategy Apply good performance strategy when developing software to work with the MySQL database. Configure dozens of variable to correctly tune the MySQL engine. If you deal with the intricacies and challenges of advanced MySQL functionality on a daily basis, you will be able to build on your knowledge with author Robert Schneider's real-world experiences in MySQL Database Design and Tuning.

Understanding Linux Network Internals

Understanding MySQL Internals

Understanding the Linux Kernel

The Database Book

MySQL Stored Procedure Programming

MySQL Enterprise Solutions

Zygiaris provides an accessible walkthrough of all technological advances of databases in the business environment. Readers learn how to design, develop, and use databases to provide business analytical reports with the three major database management systems: Microsoft Access, Oracle Express and MariaDB (formerly MySQL).

This book is intended for intermediate users who want to learn how to administrate a MariaDB server or a set of servers. It is aimed at MariaDB users, and hence working knowledge of MariaDB is a prerequisite.

How can you bring out MySQL's full power? With High Performance MySQL, you'll learn advanced techniques for everything from designing schemas, indexes, and queries to tuning your MySQL server, operating system, and hardware to their fullest potential. This guide also teaches you safe and practical ways to scale applications through replication, load balancing, high availability, and failover. Updated to reflect recent advances in MySQL and InnoDB performance, features, and tools, this third edition not only offers specific examples of how MySQL works, it also teaches you why this system works a.

DuBois organizes his cookbook's recipes into sections on the problem, the solution stated simply, and the solution implemented in code and discussed. The implementation and discussion sections are the most valuable, as they contain the command sequences, code listings, and design explanations that can be transferred to outside projects.

MariaDB High Performance

Optimization, Backups, Replication, Load Balancing & More

Pro SQL Server Internals

Creating Your MySQL Database

High Performance MySQL

With more than three million users, MySQL is the most popular open-source database server in the world, providing

an extremely fast, reliable, and inexpensive alternative to commercial database management systems Gives corporate users a complete guide to building enterprise-level database applications with MySQL Covers the pros and cons of adopting MySQL and installing, testing, and configuring the MySQL server Written by one of the lead programmers of the MySQL product and reviewed by Monty Widenius, the creator of MySQL Companion Web site includes all code examples as well as links to useful online resources

When it comes to choosing, using, and maintaining a database, understanding its internals is essential. But with so many distributed databases and tools available today, it's often difficult to understand what each one offers and how they differ. With this practical guide, Alex Petrov guides developers through the concepts behind modern database and storage engine internals. Throughout the book, you'll explore relevant material gleaned from numerous books, papers, blog posts, and the source code of several open source databases. These resources are listed at the end of parts one and two. You'll discover that the most significant distinctions among many modern databases reside in subsystems that determine how storage is organized and how data is distributed. This book examines: Storage engines: Explore storage classification and taxonomy, and dive into B-Tree-based and immutable Log Structured storage engines, with differences and use-cases for each Storage building blocks: Learn how database files are organized to build efficient storage, using auxiliary data structures such as Page Cache, Buffer Pool and Write-Ahead Log Distributed systems: Learn step-by-step how nodes and processes connect and build complex communication patterns Database clusters: Which consistency models are commonly used by modern databases and how distributed storage systems achieve consistency

Although MySQL's source code is open in the sense of being publicly available, it's essentially closed to you if you don't understand it. In this book, Sasha Pachev -- a former member of the MySQL Development Team -- provides a comprehensive tour of MySQL 5 that shows you how to figure out the inner workings of this powerful database. You'll go right to heart of the database to learn how data structures and convenience functions operate, how to add new storage engines and configuration options, and much more. The core

of Understanding MySQL Internals begins with an Architecture Overview that provides a brief introduction of how the different components of MySQL work together. You then learn the steps for setting up a working compilable copy of the code that you can change and test at your pleasure. Other sections of the book cover: Core server classes, structures, and API The communication protocol between the client and the server Configuration variables, the controls of the server; includes a tutorial on how to add your own Thread-based request handling -- understanding threads and how they are used in MySQL An overview of MySQL storage engines The storage engine interface for integrating third-party storage engines The table lock manager The parser and optimizer for improving MySQL's performance Integrating a transactional storage engine into MySQL The internals of replication Understanding MySQL Internals provides unprecedented opportunities for developers, DBAs, database application programmers, IT departments, software vendors, and computer science students to learn about the inner workings of this enterprise-proven database. With this book, you will soon reach a new level of comprehension regarding database development that will enable you to accomplish your goals. It's your guide to discovering and improving a great database.

Stuck with bugs, performance problems, crashes, data corruption, and puzzling output? If you're a database programmer or DBA, they're part of your life. The trick is knowing how to quickly recover from them. This unique, example-packed book shows you how to handle an array of vexing problems when working with MySQL. Written by a principal technical support engineer at Oracle, MySQL Troubleshooting provides the background, tools, and expert steps for solving problems from simple to complex—whether data you thought you inserted doesn't turn up in a query, or the entire database is corrupt because of a server failure. With this book in hand, you'll work with more confidence. Understand the source of a problem, even when the solution is simple Handle problems that occur when applications run in multiple threads Debug and fix problems caused by configuration options Discover how operating system tuning can affect your server Use troubleshooting techniques specific to replication issues Get a reference to additional troubleshooting techniques and tools, including third-party

solutions Learn best practices for safe and effective troubleshooting—and for preventing problems
Learning MySQL
Practical Design Tips and Techniques
A Systematic Method for Improving Execution Speeds
What To Do When Queries Don't Work
MySQL Reference Manual
MySQL Troubleshooting

MySQL remains one of the hottest open source database technologies. As the database has evolved into a product competitive with proprietary counterparts like Oracle and IBM DB2, MySQL has found favor with large scale corporate users who require high-powered features and performance. Expert MySQL is the first book to delve deep into the MySQL architecture, showing users how to make the most of the database through creation of custom storage handlers, optimization of MySQL's query execution, and use of the embedded server product. This book will interest users deploying MySQL in high-traffic environments and in situations requiring minimal resource allocation.
Presents instructions on using MySQL, covering such topics as installation, querying, user management, security, and backups and recovery.
Get a comprehensive overview on how to set up and design an effective database with MySQL. This thoroughly updated edition covers MySQL's latest version, including its most important aspects. Whether you're deploying an environment, troubleshooting an issue, or engaging in disaster recovery, this practical guide provides the insights and tools necessary to take full advantage of this powerful RDBMS. Authors Vinicius Grippa and Sergey Kuzmichev from Percona show developers and DBAs methods for minimizing costs and maximizing availability and performance. You'll learn how to perform basic and advanced querying, monitoring and troubleshooting, database management and security, backup and recovery, and tuning for improved efficiency. This edition includes new chapters on high availability, load balancing, and using MySQL in the cloud. Get started with MySQL and learn how to use it in production Deploy MySQL databases on bare metal, on virtual machines, and in the cloud Design database infrastructures Code highly efficient queries Monitor and troubleshoot MySQL databases Execute efficient backup and restore operations Optimize database

costs in the cloud Understand database concepts, especially those pertaining to MySQL
This book introduces the reader to the MySQL Open Source database system and focuses on programming in the SQL language that is at the core of MySQL.
Readings in Database Systems
Learning MySQL and MariaDB
MySQL Database Design and Tuning
Open Source SQL Databases for Managing Information & Web Sites
Efficient MySQL Performance
Heading in the Right Direction with MySQL and MariaDB
Looks at the workings of MySQL 5, covering such topics as configuration variables, storage engines, the table lock manager, the communication protocol, and server classes.
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 Design and Implementation of Modern Column-Oriented Database Systems discusses modern column-stores, their architecture and evolution as well the benefits they can bring in data analytics.
Oracle Core: Essential Internals for DBAs and Developers by Jonathan Lewis provides just the essential information about Oracle Database internals that every database administrator needs for troubleshooting—no more, no less. Oracle Database seems complex on the surface. However, its extensive feature set is really built upon upon a core infrastructure resulting from sound architectural decisions made very early on that have stood the test of time. This core infrastructure manages transactions and the ability to commit and roll back changes, protects the integrity of the database, enables backup and recovery, and allows for scalability to thousands of users all accessing the same data. Most performance, backup, and recovery problems that database administrators face on a daily basis can easily be identified through understanding the essential core of Oracle Database architecture that Lewis describes in this book. Provides proven content from a world-renowned performance and troubleshooting

expert Emphasizes the significance of internals knowledge to rapid identification of database performance problems Covers the core essentials and does not waste your time with esoterica

SQL Performance Explained

MySQL Cookbook

A Business-Oriented Approach Using ORACLE, MySQL and MS Access

Expert MySQL

Everything Developers Need to Know about SQL Performance

Documentation from the Source

"With an easy, step-by-step approach, this guide shows beginners how to install, use, and maintain the world's most popular open source database: MySQL. You'll learn through real-world examples and many practical tips, including information on how to improve database performance. Database systems such as MySQL help data handling for organizations large and small handle data, providing robust and efficient access in ways not offered by spreadsheets and other types of data stores. This book is also useful for web developers and programmers interested in adding MySQL to their skill sets. Topics include: Installation and basic administration ; Introduction to databases and SQL ; Functions, subqueries, and other query enhancements ; Improving database performance ; Accessing MySQL from popular languages" --

Perform fast interactive analytics against different data sources using the Trino high-performance distributed SQL query engine. With this practical guide, you'll learn how to conduct analytics on data where it lives, whether it's Hive, Cassandra, a relational database, or a proprietary data store. Analysts, software engineers, and production engineers will learn how to manage, use, and even develop with Trino. Initially developed by Facebook, open source Trino is now used by Netflix, Airbnb, LinkedIn, Twitter, Uber, and many other companies. Matt Fuller, Manfred Moser, and Martin Traverso show you how a single Trino query can combine data from multiple sources to allow for analytics across your entire organization. Get started: Explore Trino's use cases and learn about tools that will help you connect to Trino and query data Go deeper: Learn Trino's internal workings, including how to connect to and query data sources with support for SQL statements, operators, functions, and more Put Trino in production: Secure Trino, monitor workloads, tune queries, and connect more applications; learn how other organizations apply Trino To thoroughly understand what makes Linux tick and why it's so efficient, you need to delve deep into the heart of the operating system--into the Linux kernel itself. The kernel is Linux--in the case of the Linux operating system, it's the only bit of software to which the term "Linux" applies. The kernel handles all the requests or completed I/O operations and determines which programs will share its processing time, and in what order. Responsible for the sophisticated memory management of the whole system, the Linux kernel is the force behind the legendary Linux efficiency. The new edition of Understanding the Linux Kernel takes you on a guided tour through the

most significant data structures, many algorithms, and programming
tricks used in the kernel. Probing beyond the superficial features,
the authors offer valuable insights to people who want to know how
things really work inside their machine. Relevant segments of code are
dissected and discussed line by line. The book covers more than just
the functioning of the code, it explains the theoretical underpinnings
for why Linux does things the way it does. The new edition of the book
has been updated to cover version 2.4 of the kernel, which is quite
different from version 2.2: the virtual memory system is entirely new,
support for multiprocessor systems is improved, and whole new classes
of hardware devices have been added. The authors explore each new
feature in detail. Other topics in the book include: Memory management
including file buffering, process swapping, and Direct memory Access
(DMA) The Virtual Filesystem and the Second Extended Filesystem
Process creation and scheduling Signals, interrupts, and the essential
interfaces to device drivers Timing Synchronization in the kernel
Interprocess Communication (IPC) Program execution Understanding the
Linux Kernel, Second Edition will acquaint you with all the inner
workings of Linux, but is more than just an academic exercise. You'll
learn what conditions bring out Linux's best performance, and you'll
see how it meets the challenge of providing good system response
during process scheduling, file access, and memory management in a
wide variety of environments. If knowledge is power, then this book
will help you make the most of your Linux system.
MySQL's popularity has brought a flood of questions about how to solve
specific problems, and that's where this cookbook is essential. When
you need quick solutions or techniques, this handy resource provides
scores of short, focused pieces of code, hundreds of worked-out
examples, and clear, concise explanations for programmers who don't
have the time (or expertise) to solve MySQL problems from scratch.
Ideal for beginners and professional database and web developers, this
updated third edition covers powerful features in MySQL 5.6 (and some
in 5.7). The book focuses on programming APIs in Python, PHP, Java,
Perl, and Ruby. With more than 200+ recipes, you'll learn how to: Use
the mysql client and write MySQL-based programs Create, populate, and
select data from tables Store, retrieve, and manipulate strings Work
with dates and times Sort query results and generate summaries Use
stored routines, triggers, and scheduled events Import, export,
validate, and reformat data Perform transactions and work with
statistics Process web input, and generate web content from query
results Use MySQL-based web session management Provide security and
server administration
Trino: The Definitive Guide
MySQL 8 Query Performance Tuning
A Deep Dive into How Distributed Data Systems Work
Tools for Building Robust Data Centers
Pro MySQL
Master SQL Fundamentals
With special focus on the next major release of MySQL, this resource provides a
solid framework for anyone new to MySQL or transitioning from another database

platform, as well as experience MySQL administrators. The high-profile author duo provides essential coverage of the fundamentals of MySQL database management—including MySQL's unique approach to basic database features and functions—as well as coverage of SQL queries, data and index types, stores procedure and functions, triggers and views, and transactions. They also present comprehensive coverage of such topics as MySQL server tuning, managing storage engines, caching, backup and recovery, managing users, index tuning, database and performance monitoring, security, and more.

MySQL is a popular and robust open source database product that supports key subsets of SQL on both Linux and Unix systems. MySQL is free for nonprofit use and costs a small amount for commercial use. Unlike commercial databases, MySQL is affordable and easy to use. This book includes introductions to SQL and to relational database theory. If you plan to use MySQL to build web sites or other Linux or Unix applications, this book teaches you to do that, and it will remain useful as a reference once you understand the basics. Ample tutorial material and examples are included throughout. This book has all you need to take full advantage of this powerful database management system. It takes you through the whole process from installation and configuration to programming interfaces and database administration. This second edition has a greatly enhanced administration chapter that includes information on administrative tools, server configuration, server startup and shutdown, log file management, database backup and restore, and database administration and repair. In addition, a new chapter on security describes data, server, and client-server security, while a chapter on extending MySQL provides an overview of MySQL internals and describes the use of MySQL user-defined functions. If you know C/C++, Java, Perl, PHP, or Python, you can write programs to interact with your MySQL database. In addition, you can embed queries and updates directly in an HTML file so that a web page becomes its own interface to the database. Managing and Using MySQL includes chapters on the programming language interfaces, and it also includes a complete reference section with specific function calls for each language. Also included in the reference section are references to the SQL language, and details of the MySQL system variables, programs, and utilities. New to the second edition is a reference to the internal MySQL tables, which will be of particular interest to those who want to work extensively with MySQL security.

High Performance MySQL is the definitive guide to building fast, reliable systems with MySQL. Written by noted experts with years of real-world experience building very large systems, this book covers every aspect of MySQL performance in detail, and focuses on robustness, security, and data integrity. High Performance MySQL teaches you advanced techniques in depth so you can bring out MySQL's full power. Learn how to design schemas, indexes, queries and advanced MySQL features for maximum performance, and get detailed guidance for tuning your MySQL server, operating system, and hardware to their

fullest potential. You'll also learn practical, safe, high-performance ways to scale your applications with replication, load balancing, high availability, and failover. This second edition is completely revised and greatly expanded, with deeper coverage in all areas. Major additions include: Emphasis throughout on both performance and reliability Thorough coverage of storage engines, including in-depth tuning and optimizations for the InnoDB storage engine Effects of new features in MySQL 5.0 and 5.1, including stored procedures, partitioned databases, triggers, and views A detailed discussion on how to build very large, highly scalable systems with MySQL New options for backups and replication Optimization of advanced querying features, such as full-text searches Four new appendices The book also includes chapters on benchmarking, profiling, backups, security, and tools and techniques to help you measure, monitor, and manage your MySQL installations.

Server bottlenecks and failures are a fact of life in any database deployment, but they don't have to bring everything to a halt. MySQL has several features that can help you protect your system from outages, whether it's running on hardware, virtual machines, or in the cloud. MySQL High Availability explains how to use these replication, cluster, and monitoring features in a wide range of real-life situations. Written by engineers who designed many of the tools covered inside, this book reveals undocumented or hard-to-find aspects of MySQL reliability and high availability -- knowledge that's essential for any organization using this database system. Explore the binary log, a file for replication that helps in disaster recovery and troubleshooting Get techniques for improving response time and handling large data sets Monitor database activity and performance, as well as major operating system parameters Keep track of what masters and slaves are doing, and deal with failures and restarts, corruption, and other incidents Automate key tasks with code from an open source library written by the authors Learn techniques for using MySQL in virtualized environments, such as Amazon Web Services Use MySQL Cluster to achieve high availability "MySQL replication is widely deployed but has never been adequately explained. This book changes that."-- Mark Callaghan, MySQL contributor and leader of MySQL engineering efforts at a few of the world's largest Internet companies

MySQL Administrator's Bible

Core MySQL

Building High-Performance Web Applications in MySQL

Managing & Using MySQL

As users come to depend on MySQL, they find that they have to deal with issues of reliability, scalability, and performance--issues that are not well documented but are critical to a smoothly functioning site. This book is an insider's guide to these little understood topics.Author Jeremy Zawodny has managed large numbers of MySQL servers for mission-critical work at Yahoo!, maintained years of contacts with the MySQL AB team, and presents regularly at conferences. Jeremy and

Derek have spent months experimenting, interviewing major users of MySQL, talking to MySQL AB, benchmarking, and writing some of their own tools in order to produce the information in this book.In High Performance MySQL you will learn about MySQL indexing and optimization in depth so you can make better use of these key features. You will learn practical replication, backup, and load-balancing strategies with information that goes beyond available tools to discuss their effects in real-life environments. And you'll learn the supporting techniques you need to carry out these tasks, including advanced configuration, benchmarking, and investigating logs.Topics include: A review of configuration and setup options Storage engines and table types Benchmarking Indexes Query Optimization Application Design Server Performance Replication Load-balancing Backup and Recovery Security
Benvenuti describes the relationship between the Internet's TCP/IP implementation and the Linux Kernel so that programmers and advanced administrators can modify and fine-tune their network environment.
The latest edition of a popular text and reference on database research, with substantial new material and revision; covers classical literature and recent hot topics. Lessons from database research have been applied in academic fields ranging from bioinformatics to next-generation Internet architecture and in industrial uses including Web-based e-commerce and search engines. The core ideas in the field have become increasingly influential. This text provides both students and professionals with a grounding in database research and a technical context for understanding recent innovations in the field. The readings included treat the most important issues in the database area--the basic material for any DBMS professional. This fourth edition has been substantially updated and revised, with 21 of the 48 papers new to the edition, four of them published for the first time. Many of the sections have been newly organized, and each section includes a new or substantially revised introduction that discusses the context, motivation, and controversies in a particular area, placing it in the broader perspective of database research. Two introductory articles, never before published, provide an organized, current introduction to basic knowledge of the field; one discusses the history of data models and query languages and the other offers an architectural overview of a database system. The remaining articles range from the classical literature on database research to treatments of current hot topics, including a paper on search engine architecture and a paper on application servers, both written expressly for this edition. The result is a collection of papers that are seminal and also accessible to a

reader who has a basic familiarity with database systems.