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## Read Free Nosql With Mongodb In 24 Hours Sams Teach Yourself By Brad Dayley

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### 4B1 - LUCAS WILCOX

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Learn how to deploy and monitor databases in the cloud, manipulate documents, visualize data, and build applications running on MongoDB using Node.js

**Key Features** Learn the fundamentals of NoSQL databases with MongoDB Create, manage, and optimize a MongoDB database in the cloud using Atlas Use a real-world dataset to gain practical experience of handling big data

**Book Description** MongoDB is one of the most popular database technologies for handling large collections of data. This book will help MongoDB beginners develop the knowledge and skills to create databases and process data efficiently. Unlike other MongoDB books, MongoDB Fundamentals dives into cloud computing from the very start – showing you how to get started with Atlas in the first chapter. You will discover how to modify existing data, add new data into a database, and handle complex queries by creating aggregation pipelines. As you progress, you'll learn about the MongoDB replication architecture and configure a simple cluster. You will also get to grips with user authentication, as well as techniques for backing up and restoring data. Finally, you'll perform data visualization using MongoDB Charts. You will work on realistic projects that are presented as bitesize exercises and activities, allowing you to challenge yourself in an enjoyable and attainable way. Many of these mini-projects are based around a movie database case study, while the last chapter acts as a final project where you will use MongoDB to solve a real-world problem based on a bike-sharing app. By the end of this book, you'll have the skills and confidence to process large volumes of data and tackle your own projects using MongoDB. What you will learn

- Set up and use MongoDB Atlas on the cloud
- Insert, update, delete, and retrieve data from MongoDB
- Build aggregation pipelines to perform complex queries
- Optimize queries using indexes
- Monitor databases

and manage user authorization

- Improve scalability and performance with sharding
- Clusters
- Replicate clusters, back up your database, and restore data
- Create data-driven charts and reports from real-time data

**Who this book is for** This book is designed for people who are new to MongoDB. It is suitable for developers, database administrators, system administrators, and cloud architects who are looking to use MongoDB for smooth data processing in the cloud. Although not necessary, basic knowledge of a general programming language and experience with other databases will help you grasp the topics covered more easily.

NoSQL database usage is growing at a stunning 50% per year, as organizations discover NoSQL's potential to address even the most challenging Big Data and real-time database problems. Every NoSQL database is different, but one is the most popular by far: MongoDB. Now, in just 24 lessons of one hour or less, you can learn how to leverage MongoDB's immense power. Each short, easy lesson builds on all that's come before, teaching NoSQL concepts and MongoDB techniques from the ground up. Sams Teach Yourself NoSQL with MongoDB in 24 Hours covers all this, and much more: Learning how NoSQL is different, when to use it, and when to use traditional RDBMSes instead

- Designing and implementing MongoDB databases of diverse types and sizes
- Storing and interacting with data via Java, PHP, Python, and Node.js
- Mongoose
- Choosing the right NoSQL distribution model for your application
- Installing and configuring MongoDB
- Designing MongoDB data models, including collections, indexes, and GridFS
- Balancing consistency, performance, and durability
- Leveraging the immense power of Map-Reduce
- Administering, monitoring, securing, backing up, and repairing MongoDB databases
- Mastering advanced techniques such as sharding and replication
- Optimizing performance.

The "one-size-fits-all" thinking regarding traditional RDBMSs has

been challenged in the last few years by the emergence of diversified NoSQL databases. More than 120 NoSQL databases are now available in the market, and the market leader by far is MongoDB. With so many companies opting for MongoDB as their NoSQL database of choice, there's a need for a practical how-to combined with expert advice for getting the most out of the software. Beginning with a short introduction to the basics of NoSQL databases, MongoDB experts Navin Sabharwal and Shankata Gupta Edward introduce readers to MongoDB – the leading document based NoSQL database, acquainting them step by step with all aspects of MongoDB. They cover the data model, underlying architecture, how to code using Mongo Shell, and administration of the MongoDB platform, among other topics. The book also provides clear guidelines and practical examples for architecting and developing applications using the MongoDB platform and deploying them. Database developers, architects, and database administrators will find useful information covering all aspects of the MongoDB platform and how to put it to use practically. Practical Guide to MongoDB provides readers with:

- A solid understanding of NoSQL databases
- An understanding of how to get started with MongoDB
- Methodical coverage of the architecture, development, and administration of MongoDB
- A plethora of "How to's" enabling you to use the technology most efficiently to solve the problems you face

Practical MongoDB is for those just starting to learning to work with NoSQL databases in general and MongoDB in particular. Skills in these areas are in demand, making this book essential reading for those who want to work more productively or break into big data work. It will prove equally useful for entrepreneurs and others who like to work with new technologies.

The need to handle increasingly larger data volumes is one factor driving the adoption of a new class of nonrelational "NoSQL" databases. Advocates of NoSQL databases claim they can be used

to build systems that are more performant, scale better, and are easier to program. NoSQL Distilled is a concise but thorough introduction to this rapidly emerging technology. Pramod J. Sadalage and Martin Fowler explain how NoSQL databases work and the ways that they may be a superior alternative to a traditional RDBMS. The authors provide a fast-paced guide to the concepts you need to know in order to evaluate whether NoSQL databases are right for your needs and, if so, which technologies you should explore further. The first part of the book concentrates on core concepts, including schemaless data models, aggregates, new distribution models, the CAP theorem, and map-reduce. In the second part, the authors explore architectural and design issues associated with implementing NoSQL. They also present realistic use cases that demonstrate NoSQL databases at work and feature representative examples using Riak, MongoDB, Cassandra, and Neo4j. In addition, by drawing on Pramod Sadalage's pioneering work, NoSQL Distilled shows how to implement evolutionary design with schema migration: an essential technique for applying NoSQL databases. The book concludes by describing how NoSQL is ushering in a new age of Polyglot Persistence, where multiple data-storage worlds coexist, and architects can choose the technology best optimized for each type of data access.

Data is getting bigger and more complex by the day, and so are your choices in handling it. Explore some of the most cutting-edge databases available - from a traditional relational database to newer NoSQL approaches - and make informed decisions about challenging data storage problems. This is the only comprehensive guide to the world of NoSQL databases, with in-depth practical and conceptual introductions to seven different technologies: Redis, Neo4J, CouchDB, MongoDB, HBase, Postgres, and DynamoDB. This second edition includes a new chapter on DynamoDB and updated content for each chapter. While relational databases such as MySQL remain as relevant as ever, the alternative, NoSQL paradigm has opened up new horizons in performance and scalability and changed the way we approach data-centric problems. This book presents the essential concepts behind each database alongside hands-on examples that make each technology come alive. With each database, tackle a real-world problem that highlights the concepts and features that make it shine. Along the way, explore five database models - relational, key/value, columnar, document, and graph - from the perspective of challenges

faced by real applications. Learn how MongoDB and CouchDB are strikingly different, make your applications faster with Redis and more connected with Neo4J, build a cluster of HBase servers using cloud services such as Amazon's Elastic MapReduce, and more. This new edition brings a brand new chapter on DynamoDB, updated code samples and exercises, and a more up-to-date account of each database's feature set. Whether you're a programmer building the next big thing, a data scientist seeking solutions to thorny problems, or a technology enthusiast venturing into new territory, you will find something to inspire you in this book. What You Need: You'll need a \*nix shell (Mac OS or Linux preferred, Windows users will need Cygwin), Java 6 (or greater), and Ruby 1.8.7 (or greater). Each chapter will list the downloads required for that database.

*A Deep Dive into NoSQL Databases: The Use Cases and Applications, Volume 109*, the latest release in the *Advances in Computers* series first published in 1960, presents detailed coverage of innovations in computer hardware, software, theory, design and applications. In addition, it provides contributors with a medium in which they can explore their subjects in greater depth and breadth. This update includes sections on NoSQL and NewSQL databases for big data analytics and distributed computing, NewSQL databases and scalable in-memory analytics, NoSQL web crawler application, NoSQL Security, a Comparative Study of different In-Memory (No/New)SQL Databases, NoSQL Hands On-4 NoSQLs, the Hadoop Ecosystem, and more. Provides a very comprehensive, yet compact, book on the popular domain of NoSQL databases for IT professionals, practitioners and professors Articulates and accentuates big data analytics and how it gets simplified and streamlined by NoSQL database systems Sets a stimulating foundation with all the relevant details for NoSQL database researchers, developers and administrators

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 Harness the latest features of MongoDB 3 with this collection of 80 recipes - from managing cloud platforms to app development, this book is a vital resource About This Book Get to grips with the latest features of MongoDB 3 Interact with the MongoDB server and perform a wide range of query operations from the shell From administration to automation, this cookbook keeps you up to date with the world's leading NoSQL database Who This Book Is For This book is engineered for anyone who is interested in managing data in an easy and efficient way using MongoDB. You do not need any prior knowledge of MongoDB, but it would be helpful if you have some programming experience in either Java or Python. What You Will Learn Install, configure, and administer MongoDB sharded clusters and replica sets Begin writing applications using MongoDB in Java and Python languages Initialize the server in three different modes with various configurations Perform cloud deployment and introduce PaaS for Mongo Discover frameworks and products built to improve developer productivity using Mongo Take an in-depth look at the Mongo programming driver APIs in Java and Python Set up enterprise class monitoring and backups of MongoDB In Detail MongoDB is a high-performance and feature-rich NoSQL database that forms the backbone of the systems that power many different organizations - it's easy to see why it's the most popular NoSQL database on the market. Packed with many features that have become essential for many different types of software professionals and incredibly easy to use, this cookbook contains many solutions to the everyday challenges of MongoDB, as well as guidance on effective techniques to extend your skills and capabilities. This book starts with how to initialize the server in three different modes with various configurations.

You will then be introduced to programming language drivers in both Java and Python. A new feature in MongoDB 3 is that you can connect to a single node using Python, set to make MongoDB even more popular with anyone working with Python. You will then learn a range of further topics including advanced query operations, monitoring and backup using MMS, as well as some very useful administration recipes including SCRAM-SHA-1 Authentication. Beyond that, you will also find recipes on cloud deployment, including guidance on how to work with Docker containers alongside MongoDB, integrating the database with Hadoop, and tips for improving developer productivity. Created as both an accessible tutorial and an easy to use resource, on hand whenever you need to solve a problem, MongoDB Cookbook will help you handle everything from administration to automation with MongoDB more effectively than ever before. Style and approach Every recipe is explained in a very simple set-by-step manner yet is extremely comprehensive.

Get to grips with a new technology, understand what it is and what it can do for you, and then get to work with the most important features and tasks. MongoDB Starter is a fast and practical guide designed to help you start developing high-performance and scalable applications using MongoDB. MongoDB Starter is ideal for developers who are new to MongoDB and who need a no-nonsense guide on how to start working with it. No knowledge of MongoDB is required to follow this book, but some knowledge of C++ would be helpful.

Utilize R to uncover hidden patterns in your Big Data About This Book Perform computational analyses on Big Data to generate meaningful results Get a practical knowledge of R programming language while working on Big Data platforms like Hadoop, Spark, H2O and SQL/NoSQL databases, Explore fast, streaming, and scalable data analysis with the most cutting-edge technologies in the market Who This Book Is For This book is intended for Data Analysts, Scientists, Data Engineers, Statisticians, Researchers, who want to integrate R with their current or future Big Data workflows. It is assumed that readers have some experience in data analysis and understanding of data management and algorithmic processing of large quantities of data, however they may lack specific skills related to R. What You Will Learn Learn about current state of Big Data processing using R programming language and its powerful statistical capabilities Deploy Big Data analytics

platforms with selected Big Data tools supported by R in a cost-effective and time-saving manner Apply the R language to real-world Big Data problems on a multi-node Hadoop cluster, e.g. electricity consumption across various socio-demographic indicators and bike share scheme usage Explore the compatibility of R with Hadoop, Spark, SQL and NoSQL databases, and H2O platform In Detail Big Data analytics is the process of examining large and complex data sets that often exceed the computational capabilities. R is a leading programming language of data science, consisting of powerful functions to tackle all problems related to Big Data processing. The book will begin with a brief introduction to the Big Data world and its current industry standards. With introduction to the R language and presenting its development, structure, applications in real world, and its shortcomings. Book will progress towards revision of major R functions for data management and transformations. Readers will be introduced to Cloud based Big Data solutions (e.g. Amazon EC2 instances and Amazon RDS, Microsoft Azure and its HDInsight clusters) and also provide guidance on R connectivity with relational and non-relational databases such as MongoDB and HBase etc. It will further expand to include Big Data tools such as Apache Hadoop ecosystem, HDFS and MapReduce frameworks. Also other R compatible tools such as Apache Spark, its machine learning library Spark MLlib, as well as H2O. Style and approach This book will serve as a practical guide to tackling Big Data problems using R programming language and its statistical environment. Each section of the book will present you with concise and easy-to-follow steps on how to process, transform and analyse large data sets.

MongoDB gives flexibility in compare to RDBMS. It has features like dynamic schemas, storage for large volume data, scaling database architecture, real-time data reporting, data sharding, and so on. It enables to develop application faster. To address all these features in a concise manner, this e-book is created. This e-book has explained features of MongoDB, that is important from the point of Big data analytics. It makes clear the confusion over MySQL and NoSQL working pattern. It has accommodated all the topics on MongoDB with examples. It guides you right through setting up MongoDB environment to security requirements. The book is too small, but all important aspect of MongoDB is covered. The examples and code are explained in a manner that beginners can easily absorb the content. The book has also illustrated vari-

ous shell commands to access MongoDB. Not only that, but the user will also explore about JSON document and creating queries in MongoDB. The book can be used for further reference for application build on MongoDB Java or MongoDB Python. Minimum price range and maximum deliverable is the main plus point of this e-book. Table Of Content Chapter 1: Introduction Chapter 2: Download and Install MongoDB on Windows Download & Install MongoDB on Windows Install Driver- Javascript, Python and Ruby Install Robomongo- MongoDB Management Tool MongoDB Configuration, Import and Export Configuring MongoDB server with configuration file Chapter 3: Create Database & Insert Data Creating a database Creating a collection Chapter 4: Add MongoDB Array using insert() Chapter 5: ObjectId() Chapter 6: Query Document using find() Chapter 7: Cursor Chapter 8: Query Modifications using limit(), sort() Chapter 9: Count() & remove() function Chapter 10: Update() Document Chapter 11: Indexing, Monitoring & Backup Chapter 12: How to Create User in Mongodb & assign Roles Chapter 13: Authentication with Kerberos Chapter 14: Replica Set Replica Set: Adding the First Member using rs.initiate() Replica Set: Adding a Secondary using rs.add() Replica Set: Reconfiguring or Removing using rs.remove() Troubleshooting Replica Sets Chapter 15: Sharded Cluster Chapter 16: Indexing - createIndex() Understanding Impact of Indexes Create Indexes Finding Indexes Dropping Indexes Chapter 17: Regular Expression (Regex) Using \$regex operator for Pattern matching Pattern Matching with \$options Pattern matching without the regex operator Fetching last 'n' documents from a collection

A fast paced guide that will help you to create, read, update and delete data using MongoDB Key Features Create secure databases with MongoDB Manipulate and maintain your database Model and use data in a No SQL environment with MongoDB Book Description MongoDB has grown to become the de facto NoSQL database with millions of users, from small start-ups to Fortune 500 companies. It can solve problems that are considered difficult, if not impossible, for aging RDBMS technologies. Written for version 4 of MongoDB, this book is the easiest way to get started with MongoDB. You will start by getting a MongoDB installation up and running in a safe and secure manner. You will learn how to perform mission-critical create, read, update, and delete operations, and set up database security. You will also learn about advanced features of MongoDB such as the aggregation pipeline, replication, and shard-

ing. You will learn how to build a simple web application that uses MongoDB to respond to AJAX queries, and see how to make use of the MongoDB programming language driver for PHP. The examples incorporate new features available in MongoDB version 4 where appropriate. What you will learn  
 Get a standard MongoDB database up and running quickly  
 Perform simple CRUD operations on the database using the MongoDB command shell  
 Set up a simple aggregation pipeline to return subsets of data grouped, sorted, and filtered  
 Safeguard your data via replication and handle massive amounts of data via sharding  
 Publish data from a web form to the database using a program language driver  
 Explore the basic CRUD operations performed using the PHP MongoDB driver  
 Who this book is for Web developers, IT professionals and Database Administrators (DBAs) who want to learn how to create and manage MongoDB databases.

Leverage the power of MongoDB 4.x to build and administer fault-tolerant database applications  
 Key Features  
 Master the new features and capabilities of MongoDB 4.x  
 Implement advanced data modeling, querying, and administration techniques in MongoDB  
 Includes rich case-studies and best practices followed by expert MongoDB developers  
 Book Description MongoDB is the best platform for working with non-relational data and is considered to be the smartest tool for organizing data in line with business needs. The recently released MongoDB 4.x supports ACID transactions and makes the technology an asset for enterprises across the IT and fintech sectors. This book provides expertise in advanced and niche areas of managing databases (such as modeling and querying databases) along with various administration techniques in MongoDB, thereby helping you become a successful MongoDB expert. The book helps you understand how the newly added capabilities function with the help of some interesting examples and large datasets. You will dive deeper into niche areas such as high-performance configurations, optimizing SQL statements, configuring large-scale sharded clusters, and many more. You will also master best practices in overcoming database failover, and master recovery and backup procedures for database security. By the end of the book, you will have gained a practical understanding of administering database applications both on premises and on the cloud; you will also be able to scale database applications across all servers. What you will learn  
 Perform advanced querying techniques such as indexing and expressions  
 Configure, monitor, and

maintain a highly scalable MongoDB environment  
 Master replication and data sharding to optimize read/write performance  
 Administer MongoDB-based applications on premises or on the cloud  
 Integrate MongoDB with big data sources to process huge amounts of data  
 Deploy MongoDB on Kubernetes containers  
 Use MongoDB in IoT, mobile, and serverless environments  
 Who this book is for This book is ideal for MongoDB developers and database administrators who wish to become successful MongoDB experts and build scalable and fault-tolerant applications using MongoDB. It will also be useful for database professionals who wish to become certified MongoDB professionals. Some understanding of MongoDB and basic database concepts is required to get the most out of this book.

NoSQL database usage is growing at a stunning 50% per year, as organizations discover NoSQL's potential to address even the most challenging Big Data and real-time database problems. Every NoSQL database is different, but one is the most popular by far: MongoDB. Now, in just 24 lessons of one hour or less, you can learn how to leverage MongoDB's immense power. Each short, easy lesson builds on all that's come before, teaching NoSQL concepts and MongoDB techniques from the ground up. Sams Teach Yourself NoSQL with MongoDB in 24 Hours covers all this, and much more: Learning how NoSQL is different, when to use it, and when to use traditional RDBMSes instead  
 Designing and implementing MongoDB databases of diverse types and sizes  
 Storing and interacting with data via Java, PHP, Python, and Node.js/Mongoose  
 Choosing the right NoSQL distribution model for your application  
 Installing and configuring MongoDB  
 Designing MongoDB data models, including collections, indexes, and GridFS  
 Balancing consistency, performance, and durability  
 Leveraging the immense power of Map-Reduce  
 Administering, monitoring, securing, backing up, and repairing MongoDB databases  
 Mastering advanced techniques such as sharding and replication  
 Optimizing performance

Summary MongoDB in Action, Second Edition is a completely revised and updated version. It introduces MongoDB 3.0 and the document-oriented database model. This perfectly paced book gives you both the big picture you'll need as a developer and enough low-level detail to satisfy system engineers. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology This docu-

ment-oriented database was built for high availability, supports rich, dynamic schemas, and lets you easily distribute data across multiple servers. MongoDB 3.0 is flexible, scalable, and very fast, even with big data loads. About the Book MongoDB in Action, Second Edition is a completely revised and updated version. It introduces MongoDB 3.0 and the document-oriented database model. This perfectly paced book gives you both the big picture you'll need as a developer and enough low-level detail to satisfy system engineers. Lots of examples will help you develop confidence in the crucial area of data modeling. You'll also love the deep explanations of each feature, including replication, auto-sharding, and deployment. What's Inside  
 Indexes, queries, and standard DB operations  
 Aggregation and text searching  
 Map-reduce for custom aggregations and reporting  
 Deploying for scale and high availability  
 Updated for Mongo 3.0  
 About the Reader Written for developers. No previous MongoDB or NoSQL experience is assumed.  
 About the Authors After working at MongoDB, Kyle Banker is now at a startup. Peter Bakkum is a developer with MongoDB expertise. Shaun Verch has worked on the core server team at MongoDB. A Genentech engineer, Doug Garrett is one of the winners of the MongoDB Innovation Award for Analytics. A software architect, Tim Hawkins has led search engineering at Yahoo Europe.  
 Technical Contributor: Wouter Thielen. Technical Editor: Mihalis Tsoukalos.  
 Table of Contents  
 PART 1 GETTING STARTED  
 A database for the modern web  
 MongoDB through the JavaScript shell  
 Writing programs using MongoDB  
 PART 2 APPLICATION DEVELOPMENT IN MONGODB  
 Document-oriented data  
 Constructing queries  
 Aggregation  
 Updates, atomic operations, and deletes  
 PART 3 MONGODB MASTERY  
 Indexing and query optimization  
 Text search  
 WiredTiger and pluggable storage  
 Replication  
 Scaling your system with sharding  
 Deployment and administration  
 Learn how to leverage MongoDB with your Python applications, using the hands-on recipes in this book. You get complete code samples for tasks such as making fast geo queries for location-based apps, efficiently indexing your user documents for social-graph lookups, and many other scenarios. This guide explains the basics of the document-oriented database and shows you how to set up a Python environment with it. Learn how to read and write to MongoDB, apply idiomatic MongoDB and Python patterns, and use the database with several popular Python web frameworks. You'll discover how to model your data, write effective queries, and avoid

concurrency problems such as race conditions and deadlocks. The recipes will help you: Read, write, count, and sort documents in a MongoDB collection Learn how to use the rich MongoDB query language Maintain data integrity in replicated/distributed MongoDB environments Use embedding to efficiently model your data without joins Code defensively to avoid keyerrors and other bugs Apply atomic operations to update game scores, billing systems, and more with the fast accounting pattern Use MongoDB with the Pylons 1.x, Django, and Pyramid web frameworks

"The media elements for Sams Teach Yourself NoSQL with MongoDB in 24 Hours demonstrate key points in the text."--Resource description page.

Master MongoDB - The widely used modern database in a step-by-step, practical, and easy-to-understand approach covering all major topics **KEY FEATURES** ● In-depth practical demonstration of MongoDB concepts with numerous examples. ● Includes graphical illustrations and visual explanations for MongoDB commands and methods. ● Covers advanced topics such as MongoDB Compass, MongoDB Security, Backup and Restore, and Replication and Sharding. **DESCRIPTION** MongoDB Complete Guide book starts with the basics of MongoDB, what exactly is MongoDB, and how to use it practically. You will understand how MongoDB is different from the traditional RDBMS. Topics such as installation and configuration of the MongoDB server, MongoDB commands, MongoDB Shell methods, and data types in MongoDB are covered in detail. You will practice how to perform MongoDB CRUD operations, indexing, MongoDB query selectors, projection in MongoDB and projection operators as well as aggregation in a very detailed and step-by-step manner. You learn how to work with MongoDB Compass and some of the advanced MongoDB topics like managing and administering MongoDB, managing the MongoDB process, monitoring and diagnosing MongoDB, backup and restore, MongoDB security, replication and sharding. **WHAT YOU WILL LEARN** ● Perform write operations, search documents, and define complex queries in MongoDB. ● Perform indexing, aggregation, and data replication. ● End-to-end MongoDB administration along with authentication and authorization. ● Running backups, restoring, and monitoring of MongoDB database enterprise-wide. **WHO THIS BOOK IS FOR** This book is designed for software developers and server administrators who want to quickly learn MongoDB basics and start applying the knowledge of MongoDB in their busi-

ness systems. **TABLE OF CONTENTS** MongoDB Basics 1. Introduction to MongoDB 2. MongoDB Installation and Setup on Windows 3. MongoDB Installation and Setup on Linux (Ubuntu) 4. MongoDB Installation and Setup on macOS 5. Getting started with MongoDB 6. Storage Engines in MongoDB 7. Managing and Administering MongoDB 8. MongoDB Shell Methods 9. Data Types in MongoDB MongoDB Intermediate Level Topics 10. Introduction to MongoDB CRUD Operations 11. MongoDB Intermediate Concepts 12. Introduction to MongoDB Indexes 13. MongoDB Query Selectors 14. Projection in MongoDB and Projection Operators 15. Aggregation in MongoDB 16. MongoDB Data Manipulations Using MongoDB Compass MongoDB Advanced Level Topics 17. Managing and Administering MongoDB (Advanced Level) 18. Replication in MongoDB 19. Sharding in MongoDB

A hands-on guide to leveraging NoSQL databases NoSQL databases are an efficient and powerful tool for storing and manipulating vast quantities of data. Most NoSQL databases scale well as data grows. In addition, they are often malleable and flexible enough to accommodate semi-structured and sparse data sets. This comprehensive hands-on guide presents fundamental concepts and practical solutions for getting you ready to use NoSQL databases. Expert author Shashank Tiwari begins with a helpful introduction on the subject of NoSQL, explains its characteristics and typical uses, and looks at where it fits in the application stack. Unique insights help you choose which NoSQL solutions are best for solving your specific data storage needs. **Professional NoSQL: Demystifies** the concepts that relate to NoSQL databases, including column-family oriented stores, key/value databases, and document databases. Delves into installing and configuring a number of NoSQL products and the Hadoop family of products. Explains ways of storing, accessing, and querying data in NoSQL databases through examples that use MongoDB, HBase, Cassandra, Redis, CouchDB, Google App Engine Datastore and more. Looks at architecture and internals. Provides guidelines for optimal usage, performance tuning, and scalable configurations. Presents a number of tools and utilities relating to NoSQL, distributed platforms, and scalable processing, including Hive, Pig, RRDtool, Nagios, and more.

Provides information for building dynamic, high performance websites and Web applications completely in JavaScript, from server to client, using the Node.js, MongoDB, and AngularJS Web develop-

ment technologies.

This book discusses the advanced databases for the cloud-based application known as NoSQL. It will explore the recent advancements in NoSQL database technology. Chapters on structured, unstructured and hybrid databases will be included to explore bigdata analytics, bigdata storage and processing. The book is likely to cover a wide range of topics such as cloud computing, social computing, bigdata and advanced databases processing techniques.

"Now, in just 24 lessons of one hour or less, you can learn how to leverage MongoDB's immense power. Each short, easy lesson builds on all that's come before, teaching NoSQL concepts and MongoDB techniques from the ground up."--

Congratulations! You completed the MongoDB application within the given tight timeframe and there is a party to celebrate your application's release into production. Although people are congratulating you at the celebration, you are feeling some uneasiness inside. To complete the project on time required making a lot of assumptions about the data, such as what terms meant and how calculations are derived. In addition, the poor documentation about the application will be of limited use to the support team, and not investigating all of the inherent rules in the data may eventually lead to poorly-performing structures in the not-so-distant future. Now, what if you had a time machine and could go back and read this book. You would learn that even NoSQL databases like MongoDB require some level of data modeling. Data modeling is the process of learning about the data, and regardless of technology, this process must be performed for a successful application. You would learn the value of conceptual, logical, and physical data modeling and how each stage increases our knowledge of the data and reduces assumptions and poor design decisions. Read this book to learn how to do data modeling for MongoDB applications, and accomplish these five objectives: Understand how data modeling contributes to the process of learning about the data, and is, therefore, a required technique, even when the resulting database is not relational. That is, NoSQL does not mean NoData-Modeling! Know how NoSQL databases differ from traditional relational databases, and where MongoDB fits. Explore each MongoDB object and comprehend how each compares to their data modeling and traditional relational database counterparts, and learn the basics of adding, querying, updating, and deleting data in MongoDB. Practice a streamlined, template-driven approach to

performing conceptual, logical, and physical data modeling. Recognize that data modeling does not always have to lead to traditional data models! Distinguish top-down from bottom-up development approaches and complete a top-down case study which ties all of the modeling techniques together. This book is written for anyone who is working with, or will be working with MongoDB, including business analysts, data modelers, database administrators, developers, project managers, and data scientists. There are three sections: In Section I, Getting Started, we will reveal the power of data modeling and the tight connections to data models that exist when designing any type of database (Chapter 1), compare NoSQL with traditional relational databases and where MongoDB fits (Chapter 2), explore each MongoDB object and comprehend how each compares to their data modeling and traditional relational database counterparts (Chapter 3), and explain the basics of adding, querying, updating, and deleting data in MongoDB (Chapter 4). In Section II, Levels of Granularity, we cover Conceptual Data Modeling (Chapter 5), Logical Data Modeling (Chapter 6), and Physical Data Modeling (Chapter 7). Notice the “ing” at the end of each of these chapters. We focus on the process of building each of these models, which is where we gain essential business knowledge. In Section III, Case Study, we will explain both top down and bottom up development approaches and go through a top down case study where we start with business requirements and end with the MongoDB database. This case study will tie together all of the techniques in the previous seven chapters. Nike Senior Data Architect Ryan Smith wrote the foreword. Key points are included at the end of each chapter as a way to reinforce concepts. In addition, this book is loaded with hands-on exercises, along with their answers provided in Appendix A. Appendix B contains all of the book’s references and Appendix C contains a glossary of the terms used throughout the text.

This comprehensive guide book begins by explaining what makes MongoDB unique. A series of tutorials designed for MongoDB mastery then leads into detailed examples for leveraging MongoDB in e-commerce, social networking, analytics, and other common applications.

Node.js, MongoDB and Angular Web Development The definitive guide to using the MEAN stack to build web applications Node.js is a leading server-side programming environment, MongoDB is the most popular NoSQL database, and Angular is the leading frame-

work for MVC-based front-end development. Together, they provide an easy-to-implement, fully integrated web development stack that allows web programmers to create high-performance sites and applications built completely in JavaScript, from server to client. Updated for Angular 2, Angular 4, and subsequent versions, this new edition of Node.js, MongoDB and Angular Web Development shows you how to integrate these three technologies into complete working solutions. It begins with concise, crystal-clear tutorials on each technology and then quickly moves on to building common web applications. You’ll learn how to use Node.js and MongoDB to build more scalable, high-performance sites, how to leverage Angular’s innovative MVC approach to structure more effective pages and applications, and how to use all three together to deliver outstanding next-generation Web solutions. Implement a highly scalable and dynamic web server using Node.js and Express Implement a MongoDB data store for your web applications Access and interact with MongoDB from Node.js JavaScript code Learn the basics of TypeScript Define custom Angular directives that extend the HTML language Build server-side web services in JavaScript Implement client-side services that can interact with the Node.js web server Build dynamic browser views that provide rich user interaction Add authenticated user accounts and nested comment components to your web applications and pages Contents at a Glance Part I: Getting Started 1 Introducing the Node.js-to-Angular Stack 2 JavaScript Primer Part II: Learning Node.js 3 Getting Started with Node.js 4 Using Events, Listeners, Timers, and Callbacks in Node.js 5 Handling Data I/O in Node.js 6 Accessing the File System from Node.js 7 Implementing HTTP Services in Node.js 8 Implementing Socket Services in Node.js 9 Scaling Applications Using Multiple Processors in Node.js 10 Using Additional Node.js Modules Part III: Learning MongoDB 11 Understanding NoSQL and MongoDB 12 Getting Started with MongoDB 13 Getting Started with MongoDB and Node.js 14 Manipulating MongoDB Documents from Node.js 15 Accessing MongoDB from Node.js 16 Using Mongoose for Structured Schema and Validation 17 Advanced MongoDB Concepts Part IV: Using Express to Make Life Easier 18 Implementing Express in Node.js 19 Implementing Express Middleware Part V: Learning Angular 20 Jumping into TypeScript 21 Getting Started with Angular 22 Angular Components 23 Expressions 24 Data Binding 25 Built-in Directives Part VI: Advanced Angular 26 Custom Directives 27 Events

and Change Detection 28 Implementing Angular Services in Web Applications 29 Creating Your Own Custom Angular Services 30 Having Fun with Angular

NoSQL Starter is a great resource for someone starting with NoSQL and an indispensable guide for technology decision makers. It is assumed that you have a background in RDBMS modeling and SQL and have had exposure to at least one of the programming languages – Java or JavaScript. Friendly, practical tutorial with lots of hints and tips from several experienced Solr users and developers.

A beginner's guide to get you up and running with Cassandra, DynamoDB, HBase, InfluxDB, MongoDB, Neo4j, and Redis Key Features Covers the basics of 7 NoSQL databases and how they are used in the enterprises Quick introduction to MongoDB, DynamoDB, Redis, Cassandra, Neo4j, InfluxDB, and HBase Includes effective techniques for database querying and management Book Description This is the golden age of open source NoSQL databases. With enterprises having to work with large amounts of unstructured data and moving away from expensive monolithic architecture, the adoption of NoSQL databases is rapidly increasing. Being familiar with the popular NoSQL databases and knowing how to use them is a must for budding DBAs and developers. This book introduces you to the different types of NoSQL databases and gets you started with seven of the most popular NoSQL databases used by enterprises today. We start off with a brief overview of what NoSQL databases are, followed by an explanation of why and when to use them. The book then covers the seven most popular databases in each of these categories: MongoDB, Amazon DynamoDB, Redis, HBase, Cassandra, InfluxDB, and Neo4j. The book doesn't go into too much detail about each database but teaches you enough to get started with them. By the end of this book, you will have a thorough understanding of the different NoSQL databases and their functionalities, empowering you to select and use the right database according to your needs. What you will learn Understand how MongoDB provides high-performance, high-availability, and automatic scaling Interact with your Neo4j instances via database queries, Python scripts, and Java application code Get familiar with common querying and programming methods to interact with Redis Study the different types of problems Cassandra can solve Work with HBase components to support common operations such as creating ta-

bles and reading/writing data Discover data models and work with CRUD operations using DynamoDB Discover what makes InfluxDB a great choice for working with time-series data Who this book is for If you are a budding DBA or a developer who wants to get started with the fundamentals of NoSQL databases, this book is for you. Relational DBAs who want to get insights into the various offerings of popular NoSQL databases will also find this book to be very useful.

Get the most out of MongoDB using a problem-solution approach. This book starts with recipes on the MongoDB query language, including how to query various data structures stored within documents. These self-contained code examples allow you to solve your MongoDB problems without fuss. MongoDB Recipes describes how to use advanced querying in MongoDB, such as indexing and the aggregation framework. It demonstrates how to use the Compass function, a GUI client interacting with MongoDB, and how to apply data modeling to your MongoDB application. You'll see recipes on the latest features of MongoDB 4 allowing you to manage data in an efficient manner using MongoDB. What You Will Learn Work with the MongoDB document model Design MongoDB schemas Use the MongoDB query language Harness the aggregation framework Create replica sets and sharding in MongoDB Who This Book Is For Developers and professionals who work with MongoDB.

Introductory, theory-practice balanced text teaching the fundamentals of databases to advanced undergraduates or graduate students in information systems or computer science.

Mining big data requires a deep investment in people and time. How can you be sure you're building the right models? With this hands-on book, you'll learn a flexible toolset and methodology for building effective analytics applications with Hadoop. Using lightweight tools such as Python, Apache Pig, and the D3.js library, your team will create an agile environment for exploring data, starting with an example application to mine your own email inboxes. You'll learn an iterative approach that enables you to quickly change the kind of analysis you're doing, depending on what the data is telling you. All example code in this book is available as working Heroku apps. Create analytics applications by using the agile big data development methodology Build value from your data in a series of agile sprints, using the data-value stack Gain insight by using several data structures to extract multiple

features from a single dataset Visualize data with charts, and expose different aspects through interactive reports Use historical data to predict the future, and translate predictions into action Get feedback from users after each sprint to keep your project on track

Manage the huMONGOus amount of data collected through your web application with MongoDB. This authoritative introduction—written by a core contributor to the project—shows you the many advantages of using document-oriented databases, and demonstrates how this reliable, high-performance system allows for almost infinite horizontal scalability. This updated second edition provides guidance for database developers, advanced configuration for system administrators, and an overview of the concepts and use cases for other people on your project. Ideal for NoSQL newcomers and experienced MongoDB users alike, this guide provides numerous real-world schema design examples. Get started with MongoDB core concepts and vocabulary Perform basic write operations at different levels of safety and speed Create complex queries, with options for limiting, skipping, and sorting results Design an application that works well with MongoDB Aggregate data, including counting, finding distinct values, grouping documents, and using MapReduce Gather and interpret statistics about your collections and databases Set up replica sets and automatic failover in MongoDB Use sharding to scale horizontally, and learn how it impacts applications Delve into monitoring, security and authentication, backup/restore, and other administrative tasks

MongoDB, a cross-platform NoSQL database, is the fastest-growing new database in the world. MongoDB provides a rich document-oriented structure with dynamic queries that you'll recognize from RDBMS offerings such as MySQL. In other words, this is a book about a NoSQL database that does not require the SQL crowd to re-learn how the database world works! MongoDB has reached 1.0 and boasts 50,000+ users. The community is strong and vibrant and MongoDB is improving at a fast rate. With scalable and fast databases becoming critical for today's applications, this book shows you how to install, administer and program MongoDB without pretending SQL never existed.

● This book is a comprehensive guide to MongoDB for application developers. The book begins by explaining what makes MongoDB unique and describing its ideal use cases. A series of chapters designed for MongoDB mastery then leads into detailed examples

for leveraging MongoDB in e-commerce, social networking, analytics, and other common applications. Numerous examples will help you develop confidence in the crucial area of data modeling. You'll also love the deep explanations of each feature, including replication, auto-sharding, and deployment. ● This is well-organized book which provides both the proper explanation you'll need as a student developer and enough detail to satisfy a developer. Several examples will help you develop confidence in the crucial area of data modeling. You'll also love the deep explanations of each feature, including replication, auto-sharding, and deployment. ● The first chapters cover a lot of theory but later you dive into practical hands-on experience setting up and configuring MongoDB from scratch. This is crucial if you want to truly understand the database environment. ● This book really does cover just the MongoDB, simply in depth so it also won't take you very far. Throughout each chapter you'll learn tons of new techniques for using MongoDB objects and the basic CRUD techniques for DB connections. Later chapters even offer source code from multiple languages like Java, Python, and PHP. This lets you see how applications can scale using Mongo regardless of the backend language. You can learn sharding and replication for scaling databases. ● This book is very compact with less than 100 pages. But it's also incredibly detailed and wastes no time diving right into the action and ease of use.. ● What's inside: - NoSQL, Architecture of MongoDB - Standard DB operations, Indexes, queries - Map-reduce for custom aggregations and reporting - Java, Python and PHP Connectivity - Schema design patterns - Deploying for scale and high availability.

Get up to speed on the nuances of NoSQL databases and what they mean for your organization This easy to read guide to NoSQL databases provides the type of no-nonsense overview and analysis that you need to learn, including what NoSQL is and which database is right for you. Featuring specific evaluation criteria for NoSQL databases, along with a look into the pros and cons of the most popular options, NoSQL For Dummies provides the fastest and easiest way to dive into the details of this incredible technology. You'll gain an understanding of how to use NoSQL databases for mission-critical enterprise architectures and projects, and real-world examples reinforce the primary points to create an action-oriented resource for IT pros. If you're planning a big data project or platform, you probably already know you need to select a

NoSQL database to complete your architecture. But with options flooding the market and updates and add-ons coming at a rapid pace, determining what you require now, and in the future, can be a tall task. This is where *NoSQL For Dummies* comes in! Learn the basic tenets of NoSQL databases and why they have come to the forefront as data has outpaced the capabilities of relational databases. Discover major players among NoSQL databases, including Cassandra, MongoDB, MarkLogic, Neo4J, and others. Get an in-depth look at the benefits and disadvantages of the wide variety of NoSQL database options. Explore the needs of your organization as they relate to the capabilities of specific NoSQL databases. Big data and Hadoop get all the attention, but when it comes down to it, NoSQL databases are the engines that power many big data analytics initiatives. With *NoSQL For Dummies*, you'll go beyond relational databases to ramp up your enterprise's data architecture in no time.

This book really does cover just the MongoDB, simply in depth so it also won't take you very far. Throughout each chapter you will learn tons of new techniques for using MongoDB objects and the basic CRUD techniques for DB connections. Later chapters even offer source code from multiple languages like Java, Python, and PHP. This lets you see how applications can scale using Mongo regardless of the backend language. You can learn sharding and replication for scaling databases. This book is very compact with less than 100 pages. But it's also incredibly detailed and wastes no time diving right into the action and ease of use..

- What's inside
- NoSQL, Architecture of MongoDB
- Standard DB operations, Indexes, queries
- Map-reduce for custom aggregations and reporting
- Java, Python and PHP Connectivity
- Schema design patterns
- Deploying for scale and high availability

This book presents innovative ideas, cutting-edge findings, and novel techniques, methods, and applications in a broad range of cybersecurity and cyberthreat intelligence areas. As our society becomes smarter, there is a corresponding need to secure our cyberfuture. The book describes approaches and findings that are of

interest to business professionals and governments seeking to secure our data and underpin infrastructures, as well as to individual users.

Two years since its initial release, Redis already has an impressive list of adopters, including Engine Yard, GitHub, Craigslist, and Digg. This open source data structure server is built for speed and flexibility, making it ideal for many applications. If you're using Redis, or considering it, this concise cookbook provides recipes for a variety of issues you're likely to face. Each recipe solves a specific problem, and provides an in-depth discussion of how the solution works. You'll discover that Redis, while simple in nature, offers extensive functionality for manipulating and storing data. Learn when it makes sense to use Redis. Explore several methods for installing Redis. Connect to Redis in a number of ways, ranging from the command line to popular languages such as Python and Ruby. Solve a range of needs, from linked datasets to analytics. Handle backups, sharding, datasets larger than available memory, and many other tasks.

The Easy, Common-Sense Guide to Solving Real Problems with NoSQL. The Mere Mortals® tutorials have earned worldwide praise as the clearest, simplest way to master essential database technologies. Now, there's one for today's exciting new NoSQL databases. *NoSQL for Mere Mortals* guides you through solving real problems with NoSQL and achieving unprecedented scalability, cost efficiency, flexibility, and availability. Drawing on 20+ years of cutting-edge database experience, Dan Sullivan explains the advantages, use cases, and terminology associated with all four main categories of NoSQL databases: key-value, document, column family, and graph databases. For each, he introduces pragmatic best practices for building high-value applications. Through step-by-step examples, you'll discover how to choose the right database for each task, and use it the right way. Coverage includes

- Getting started: What NoSQL databases are, how they differ from relational databases, when to use them, and when not

to Data management principles and design criteria: Essential knowledge for creating any database solution, NoSQL or relational

- Key-value databases: Gaining more utility from data structures
- Document databases: Schemaless databases, normalization and denormalization, mutable documents, indexing, and design patterns
- Column family databases: Google's BigTable design, table design, indexing, partitioning, and Big Data
- Graph databases: Graph/network modeling, design tips, query methods, and traps to avoid

Whether you're a database developer, data modeler, database user, or student, learning NoSQL can open up immense new opportunities. As thousands of database professionals already know, *For Mere Mortals* is the fastest, easiest route to mastery.

You can choose several data access frameworks when building Java enterprise applications that work with relational databases. But what about big data? This hands-on introduction shows you how Spring Data makes it relatively easy to build applications across a wide range of new data access technologies such as NoSQL and Hadoop. Through several sample projects, you'll learn how Spring Data provides a consistent programming model that retains NoSQL-specific features and capabilities, and helps you develop Hadoop applications across a wide range of use-cases such as data analysis, event stream processing, and workflow. You'll also discover the features Spring Data adds to Spring's existing JPA and JDBC support for writing RDBMS-based data access layers. Learn about Spring's template helper classes to simplify the use of database-specific functionality. Explore Spring Data's repository abstraction and advanced query functionality. Use Spring Data with Redis (key/value store), HBase (column-family), MongoDB (document database), and Neo4j (graph database). Discover the GemFire distributed data grid solution. Export Spring Data JPA-managed entities to the Web as RESTful web services. Simplify the development of HBase applications, using a lightweight object-mapping framework. Build example big-data pipelines with Spring Batch and Spring Integration.