

Graph Databases New Opportunities For Connected Data

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It will not waste your time. acknowledge me, the e-book will no question way of being you extra concern to read. Just invest tiny grow old to log on this on-line notice **Graph Databases New Opportunities For Connected Data** as skillfully as review them wherever you are now.

Graph Data Management - George Fletcher
2018-10-31

This book presents a comprehensive overview of fundamental issues and recent advances in graph data management. Its aim is to provide

beginning researchers in the area of graph data management, or in fields that require graph data management, an overview of the latest developments in this area, both in applied and in fundamental subdomains. The topics covered

range from a general introduction to graph data management, to more specialized topics like graph visualization, flexible queries of graph data, parallel processing, and benchmarking. The book will help researchers put their work in perspective and show them which types of tools, techniques and technologies are available, which ones could best suit their needs, and where there are still open issues and future research directions. The chapters are contributed by leading experts in the relevant areas, presenting a coherent overview of the state of the art in the field. Readers should have a basic knowledge of data management techniques as they are taught in computer science MSc programs.

Spring Data - Mark Pollack 2012-10-24

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
Learning Spark - Jules S. Damji 2020-07-16
Data is bigger, arrives faster, and comes in a variety of formats—and it all needs to be processed at scale for analytics or machine learning. But how can you process such varied workloads efficiently? Enter Apache Spark. Updated to include Spark 3.0, this second edition shows data engineers and data scientists why structure and unification in Spark matters. Specifically, this book explains how to perform simple and complex data analytics and employ machine learning algorithms. Through step-by-step walk-throughs, code snippets, and notebooks, you'll be able to: Learn Python, SQL, Scala, or Java high-level Structured APIs Understand Spark operations and SQL Engine Inspect, tune, and debug Spark operations with Spark configurations and Spark UI Connect to data sources: JSON, Parquet, CSV, Avro, ORC, Hive, S3, or Kafka Perform analytics on batch and

streaming data using Structured Streaming Build reliable data pipelines with open source Delta Lake and Spark Develop machine learning pipelines with MLlib and productionize models using MLflow

The Practitioner's Guide to Graph Data - Denise Gosnell 2020-03-20

Graph data closes the gap between the way humans and computers view the world. While computers rely on static rows and columns of data, people navigate and reason about life through relationships. This practical guide demonstrates how graph data brings these two approaches together. By working with concepts from graph theory, database schema, distributed systems, and data analysis, you'll arrive at a unique intersection known as graph thinking. Authors Denise Koessler Gosnell and Matthias Broecheler show data engineers, data scientists, and data analysts how to solve complex problems with graph databases. You'll explore templates for building with graph technology,

along with examples that demonstrate how teams think about graph data within an application. Build an example application architecture with relational and graph technologies Use graph technology to build a Customer 360 application, the most popular graph data pattern today Dive into hierarchical data and troubleshoot a new paradigm that comes from working with graph data Find paths in graph data and learn why your trust in different paths motivates and informs your preferences Use collaborative filtering to design a Netflix-inspired recommendation system
GRAPH DATABASES - IAN. ROBINSON 2016

Beginning Neo4j - Chris Kemper 2015-12-30
Beginning Neo4j is your introduction in the world of graph databases, and the benefits they can bring to your applications. Neo4j is the most established graph database on the market, and it's always improving to bring more of its benefits to you. This book will take you from the

installation of Neo4j through to building a full application with Neo4j at its heart, and everything in between. Using this book, you'll get everything up and running, and then learn how to use Neo4j to build up recommendations, relationships, and calculate the shortest route between two locations. With example data models, best practices, and an application putting everything together, this book will give you everything you need to really get started with Neo4j. Neo4j is being used by social media and ecommerce industry giants. You can take advantage of Neo4j's powerful features and benefits - add Beginning Neo4j to your library today.

Learning Neo4j - Rik Van Bruggen 2014-08-25
This book is for developers who want an alternative way to store and process data within their applications. No previous graph database experience is required; however, some basic database knowledge will help you understand the concepts more easily.

Graph Databases - Ian Robinson 2015-06-10

Discover how graph databases can help you manage and query highly connected data. With this practical book, you'll learn how to design and implement a graph database that brings the power of graphs to bear on a broad range of problem domains. Whether you want to speed up your response to user queries or build a database that can adapt as your business evolves, this book shows you how to apply the schema-free graph model to real-world problems. This second edition includes new code samples and diagrams, using the latest Neo4j syntax, as well as information on new functionality. Learn how different organizations are using graph databases to outperform their competitors. With this book's data modeling, query, and code examples, you'll quickly be able to implement your own solution. Model data with the Cypher query language and property graph model Learn best practices and common pitfalls when modeling with graphs Plan and implement a graph database solution in test-

driven fashion Explore real-world examples to learn how and why organizations use a graph database Understand common patterns and components of graph database architecture Use analytical techniques and algorithms to mine graph database information

Graph Data Management - Sherif Sakr 2012

"This book is a central reference source for different data management techniques for graph data structures and their applications, discussing graphs for modeling complex structured and schemaless data from the Semantic Web, social networks, protein networks, chemical compounds, and multimedia databases"--
Provided by publisher.

Network and System Security - Joseph K. Liu 2019-12-10

This book constitutes the proceedings of the 13th International Conference on Network and System Security, NSS 2019, held in Sapporo, Japan, in December 2019. The 36 full papers and 7 short papers presented together with 4 invited papers

in this book were carefully reviewed and selected from 89 initial submissions. The papers cover a wide range of topics in the field, including authentication, access control, availability, integrity, privacy, confidentiality, dependability and sustainability of computer networks and systems.

New Opportunities for Connected Data - Julia Nieves 2017-06-26

Discover how graph databases can help you manage and query highly connected data. With this practical book, you'll learn how to design and implement a graph database that brings the power of graphs to bear on a broad range of problem domains. Whether you want to speed up your response to user queries or build a database that can adapt as your business evolves, this book shows you how to apply the schema-free graph model to real-world problems.

Concise Guide to Databases - Peter Lake 2013-11-22

This easy-to-read textbook/reference presents a

comprehensive introduction to databases, opening with a concise history of databases and of data as an organisational asset. As relational database management systems are no longer the only database solution, the book takes a wider view of database technology, encompassing big data, NoSQL, object and object-relational and in-memory databases. The text also examines the issues of scalability, availability, performance and security encountered when building and running a database in the real world. Topics and features: presents review and discussion questions at the end of each chapter, in addition to skill-building, hands-on exercises; introduces the fundamental concepts and technologies in database systems, placing these in an historic context; describes the challenges faced by database professionals; reviews the use of a variety of database types in business environments; discusses areas for further research within this fast-moving domain.

Graph Databases - Ian Robinson 2013-06-10

Discover how graph databases can help you manage and query highly connected data. With this practical book, you'll learn how to design and implement a graph database that brings the power of graphs to bear on a broad range of problem domains. Whether you want to speed up your response to user queries or build a database that can adapt as your business evolves, this book shows you how to apply the schema-free graph model to real-world problems. Learn how different organizations are using graph databases to outperform their competitors. With this book's data modeling, query, and code examples, you'll quickly be able to implement your own solution. Model data with the Cypher query language and property graph model Learn best practices and common pitfalls when modeling with graphs Plan and implement a graph database solution in test-driven fashion Explore real-world examples to learn how and why organizations use a graph database Understand common patterns and components of graph database architecture Use

analytical techniques and algorithms to mine graph database information

Neo4j High Performance - Sonal Raj

2015-03-02

If you are a professional or enthusiast who has a basic understanding of graphs or has basic knowledge of Neo4j operations, this is the book for you. Although it is targeted at an advanced user base, this book can be used by beginners as it touches upon the basics. So, if you are passionate about taming complex data with the help of graphs and building high performance applications, you will be able to get valuable insights from this book.

Graph Analysis and Visualization - Richard

Brath 2015-01-27

Wring more out of the data with a scientific approach to analysis Graph Analysis and Visualization brings graph theory out of the lab and into the real world. Using sophisticated methods and tools that span analysis functions, this guide shows you how to exploit graph and

network analytic techniques to enable the discovery of new business insights and opportunities. Published in full color, the book describes the process of creating powerful visualizations using a rich and engaging set of examples from sports, finance, marketing, security, social media, and more. You will find practical guidance toward pattern identification and using various data sources, including Big Data, plus clear instruction on the use of software and programming. The companion website offers data sets, full code examples in Python, and links to all the tools covered in the book. Science has already reaped the benefit of network and graph theory, which has powered breakthroughs in physics, economics, genetics, and more. This book brings those proven techniques into the world of business, finance, strategy, and design, helping extract more information from data and better communicate the results to decision-makers. Study graphical examples of networks using clear and insightful

visualizations Analyze specifically-curated, easy-to-use data sets from various industries Learn the software tools and programming languages that extract insights from data Code examples using the popular Python programming language There is a tremendous body of scientific work on network and graph theory, but very little of it directly applies to analyst functions outside of the core sciences – until now. Written for those seeking empirically based, systematic analysis methods and powerful tools that apply outside the lab, Graph Analysis and Visualization is a thorough, authoritative resource.

Graph-Powered Machine Learning -

Alessandro Negro 2021-10-05

Upgrade your machine learning models with graph-based algorithms, the perfect structure for complex and interlinked data. Summary In Graph-Powered Machine Learning, you will learn: The lifecycle of a machine learning project Graphs in big data platforms Data source modeling using graphs Graph-based natural

language processing, recommendations, and fraud detection techniques Graph algorithms Working with Neo4J Graph-Powered Machine Learning teaches to use graph-based algorithms and data organization strategies to develop superior machine learning applications. You'll dive into the role of graphs in machine learning and big data platforms, and take an in-depth look at data source modeling, algorithm design, recommendations, and fraud detection. Explore end-to-end projects that illustrate architectures and help you optimize with best design practices. Author Alessandro Negro's extensive experience shines through in every chapter, as you learn from examples and concrete scenarios based on his work with real clients! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Identifying relationships is the foundation of machine learning. By recognizing and analyzing the connections in your data, graph-centric algorithms like K-nearest neighbor

or PageRank radically improve the effectiveness of ML applications. Graph-based machine learning techniques offer a powerful new perspective for machine learning in social networking, fraud detection, natural language processing, and recommendation systems. About the book Graph-Powered Machine Learning teaches you how to exploit the natural relationships in structured and unstructured datasets using graph-oriented machine learning algorithms and tools. In this authoritative book, you'll master the architectures and design practices of graphs, and avoid common pitfalls. Author Alessandro Negro explores examples from real-world applications that connect GraphML concepts to real world tasks. What's inside Graphs in big data platforms Recommendations, natural language processing, fraud detection Graph algorithms Working with the Neo4J graph database About the reader For readers comfortable with machine learning basics. About the author Alessandro Negro is Chief Scientist at

GraphAware. He has been a speaker at many conferences, and holds a PhD in Computer Science. Table of Contents PART 1 INTRODUCTION 1 Machine learning and graphs: An introduction 2 Graph data engineering 3 Graphs in machine learning applications PART 2 RECOMMENDATIONS 4 Content-based recommendations 5 Collaborative filtering 6 Session-based recommendations 7 Context-aware and hybrid recommendations PART 3 FIGHTING FRAUD 8 Basic approaches to graph-powered fraud detection 9 Proximity-based algorithms 10 Social network analysis against fraud PART 4 TAMING TEXT WITH GRAPHS 11 Graph-based natural language processing 12 Knowledge graphs

Next Generation Databases - Guy Harrison
2015-12-30

"It's not easy to find such a generous book on big data and databases. Fortunately, this book is the one." Feng Yu. Computing Reviews. June 28, 2016. This is a book for enterprise architects,

database administrators, and developers who need to understand the latest developments in database technologies. It is the book to help you choose the correct database technology at a time when concepts such as Big Data, NoSQL and NewSQL are making what used to be an easy choice into a complex decision with significant implications. The relational database (RDBMS) model completely dominated database technology for over 20 years. Today this "one size fits all" stability has been disrupted by a relatively recent explosion of new database technologies. These paradigm-busting technologies are powering the "Big Data" and "NoSQL" revolutions, as well as forcing fundamental changes in databases across the board. Deciding to use a relational database was once truly a no-brainer, and the various commercial relational databases competed on price, performance, reliability, and ease of use rather than on fundamental architectures. Today we are faced with choices between radically

different database technologies. Choosing the right database today is a complex undertaking, with serious economic and technological consequences. Next Generation Databases demystifies today's new database technologies. The book describes what each technology was designed to solve. It shows how each technology can be used to solve real world application and business problems. Most importantly, this book highlights the architectural differences between technologies that are the critical factors to consider when choosing a database platform for new and upcoming projects. Introduces the new technologies that have revolutionized the database landscape Describes how each technology can be used to solve specific application or business challenges Reviews the most popular new wave databases and how they use these new database technologies

Graph Databases, 2nd Edition - Ian Robinson. Jim Webber. Emil Eifrem 2015

Graph Algorithms - Mark Needham 2019-05-16
Discover how graph algorithms can help you leverage the relationships within your data to develop more intelligent solutions and enhance your machine learning models. You'll learn how graph analytics are uniquely suited to unfold complex structures and reveal difficult-to-find patterns lurking in your data. Whether you are trying to build dynamic network models or forecast real-world behavior, this book illustrates how graph algorithms deliver value—from finding vulnerabilities and bottlenecks to detecting communities and improving machine learning predictions. This practical book walks you through hands-on examples of how to use graph algorithms in Apache Spark and Neo4j—two of the most common choices for graph analytics. Also included: sample code and tips for over 20 practical graph algorithms that cover optimal pathfinding, importance through centrality, and community detection. Learn how graph analytics vary from conventional statistical analysis

Understand how classic graph algorithms work, and how they are applied Get guidance on which algorithms to use for different types of questions Explore algorithm examples with working code and sample datasets from Spark and Neo4j See how connected feature extraction can increase machine learning accuracy and precision Walk through creating an ML workflow for link prediction combining Neo4j and Spark

Querying Graphs - Angela Bonifati 2018-10-01

Graph data modeling and querying arises in many practical application domains such as social and biological networks where the primary focus is on concepts and their relationships and the rich patterns in these complex webs of interconnectivity. In this book, we present a concise unified view on the basic challenges which arise over the complete life cycle of formulating and processing queries on graph databases. To that purpose, we present all major concepts relevant to this life cycle, formulated in terms of a common and unifying ground: the

property graph data model—the pre-dominant data model adopted by modern graph database systems. We aim especially to give a coherent and in-depth perspective on current graph querying and an outlook for future developments. Our presentation is self-contained, covering the relevant topics from: graph data models, graph query languages and graph query specification, graph constraints, and graph query processing. We conclude by indicating major open research challenges towards the next generation of graph data management systems.

CouchDB: The Definitive Guide - J. Chris Anderson 2010-01-19

Three of CouchDB's creators show you how to use this document-oriented database as a standalone application framework or with high-volume, distributed applications. With its simple model for storing, processing, and accessing data, CouchDB is ideal for web applications that handle huge amounts of loosely structured data. That alone would stretch the limits of a relational

database, yet CouchDB offers an open source solution that's reliable, scales easily, and responds quickly. CouchDB works with self-contained data that has loose or ad-hoc connections. It's a model that fits many real-world items, such as contacts, invoices, and receipts, but you'll discover that this database can easily handle data of any kind. With this book, you'll learn how to work with CouchDB through its RESTful web interface, and become familiar with key features such as simple document CRUD (create, read, update, delete), advanced MapReduce, deployment tuning, and more. Understand the basics of document-oriented storage and manipulation Interact with CouchDB entirely through HTTP using its RESTful interface Model data as self-contained JSON documents Handle evolving data schemas naturally Query and aggregate data in CouchDB using MapReduce views Replicate data between nodes Tune CouchDB for increased performance and reliability

Graph Databases in Action - Dave Bechberger 2020-11-24

Graph Databases in Action introduces you to graph database concepts by comparing them with relational database constructs. You'll learn just enough theory to get started, then progress to hands-on development. Discover use cases involving social networking, recommendation engines, and personalization. Summary Relationships in data often look far more like a web than an orderly set of rows and columns. Graph databases shine when it comes to revealing valuable insights within complex, interconnected data such as demographics, financial records, or computer networks. In Graph Databases in Action, experts Dave Bechberger and Josh Perryman illuminate the design and implementation of graph databases in real-world applications. You'll learn how to choose the right database solutions for your tasks, and how to use your new knowledge to build agile, flexible, and high-performing graph-powered applications!

Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Isolated data is a thing of the past! Now, data is connected, and graph databases—like Amazon Neptune, Microsoft Cosmos DB, and Neo4j—are the essential tools of this new reality. Graph databases represent relationships naturally, speeding the discovery of insights and driving business value. About the book Graph Databases in Action introduces you to graph database concepts by comparing them with relational database constructs. You'll learn just enough theory to get started, then progress to hands-on development. Discover use cases involving social networking, recommendation engines, and personalization. What's inside Graph databases vs. relational databases Systematic graph data modeling Querying and navigating a graph Graph patterns Pitfalls and antipatterns About the reader For software developers. No experience with graph databases required. About the author

Dave Bechberger and Josh Perryman have decades of experience building complex data-driven systems and have worked with graph databases since 2014. Table of Contents PART 1 - GETTING STARTED WITH GRAPH DATABASES 1 Introduction to graphs 2 Graph data modeling 3 Running basic and recursive traversals 4 Pathfinding traversals and mutating graphs 5 Formatting results 6 Developing an application PART 2 - BUILDING ON GRAPH DATABASES 7 Advanced data modeling techniques 8 Building traversals using known walks 9 Working with subgraphs PART 3 - MOVING BEYOND THE BASICS 10 Performance, pitfalls, and anti-patterns 11 What's next: Graph analytics, machine learning, and resources

Knowledge Graphs - Aidan Hogan 2021-11-08 This book provides a comprehensive and accessible introduction to knowledge graphs, which have recently garnered notable attention from both industry and academia. Knowledge graphs are founded on the principle of applying a

graph-based abstraction to data, and are now broadly deployed in scenarios that require integrating and extracting value from multiple, diverse sources of data at large scale. The book defines knowledge graphs and provides a high-level overview of how they are used. It presents and contrasts popular graph models that are commonly used to represent data as graphs, and the languages by which they can be queried before describing how the resulting data graph can be enhanced with notions of schema, identity, and context. The book discusses how ontologies and rules can be used to encode knowledge as well as how inductive techniques—based on statistics, graph analytics, machine learning, etc.—can be used to encode and extract knowledge. It covers techniques for the creation, enrichment, assessment, and refinement of knowledge graphs and surveys recent open and enterprise knowledge graphs and the industries or applications within which they have been most widely adopted. The book

closes by discussing the current limitations and future directions along which knowledge graphs are likely to evolve. This book is aimed at students, researchers, and practitioners who wish to learn more about knowledge graphs and how they facilitate extracting value from diverse data at large scale. To make the book accessible for newcomers, running examples and graphical notation are used throughout. Formal definitions and extensive references are also provided for those who opt to delve more deeply into specific topics.

Hands-On Graph Analytics with Neo4j -

Estelle Scifo 2020-08-21

To start with you will cover the basics of graph analytics, Cypher querying language, components of graph architecture, and more. You will implement Neo4j techniques to understand various graph analytics methods to reveal complex relationships in data. You will understand how machine learning can be used to perform smarter graph analytics.

Computer Information Systems and Industrial Management - Khalid Saeed 2015-09-17

This book constitutes the proceedings of the 14th IFIP TC 8 International Conference on Computer Information Systems and Industrial Management, CISIM 2015, held in Warsaw, Poland, in September 2015. The 47 papers presented in this volume were carefully reviewed and selected from about 80 submissions. The main topics covered are biometrics, security systems, multimedia, classification and clustering with applications, and industrial management.

Handbook of Graphs and Networks in People Analytics - Keith McNulty 2022-06-19

Handbook of Graphs and Networks in People Analytics: With Examples in R and Python covers the theory and practical implementation of graph methods in R and Python for the analysis of people and organizational networks. Starting with an overview of the origins of graph theory and its current applications in the social sciences, the book proceeds to give in-depth technical

instruction on how to construct and store graphs from data, how to visualize those graphs compellingly and how to convert common data structures into graph-friendly form. The book explores critical elements of network analysis in detail, including the measurement of distance and centrality, the detection of communities and cliques, and the analysis of assortativity and similarity. An extension chapter offers an introduction to graph database technologies. Real data sets from various research contexts are used for both instruction and for end of chapter practice exercises and a final chapter contains data sets and exercises ideal for larger personal or group projects of varying difficulty level. Key features: Immediately implementable code, with extensive and varied illustrations of graph variants and layouts. Examples and exercises across a variety of real-life contexts including business, politics, education, social media and crime investigation. Dedicated chapter on graph visualization methods. Practical walkthroughs of

common methodological uses: finding influential actors in groups, discovering hidden community structures, facilitating diverse interaction in organizations, detecting political alignment, determining what influences connection and attachment. Various downloadable data sets for use both in class and individual learning projects. Final chapter dedicated to individual or group project examples.

Graph Database Modeling With Neo4j - Ajit Singh
2022-09-09

This book is about the Graph Database Modeling using a simple, straightforward scenario. There are plenty of opportunities throughout the upcoming guides to practice modeling domains and analyzing changes to the model that might need to be made. Neo4j is an open source NoSQL graph database. It is a fully transactional database (ACID) that stores data structured as graphs consisting of nodes, connected by relationships. Inspired by the structure of the real world, it allows for high query performance on

complex data, while remaining intuitive and simple for the developer. Using this edition, you'll get to learn the theory of graph database and how to use Neo4j to build up recommendations, relationships, and calculate the shortest route between two locations. With example data models, best practices, use-cases, and an application putting everything together, this book will give you everything you need to really get started with Neo4j. Starting with a brief introduction to graph theory, this book will show you the advantages of using graph databases along with data modeling techniques for graph databases. You'll gain practical hands-on experience with commonly used and lesser known features for updating graph store with Neo4j's Cypher query language. This book includes a lot of background information, helps you grasp the fundamental concepts behind this radical new way of dealing with connected data, and will give you lots of examples of use cases and environments where a graph database would

be a great interest.

Graph Database Modeling with Neo4j - Anant Kumar 2020-08-30

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Learning Cypher - Onofrio Panzarino 2014-05-14

An easy-to-follow guide full of tips and examples of real-world applications. In each chapter, a thorough example will show you the concepts in action, followed by a detailed explanation. This book is intended for those who want to learn how

to create, query, and maintain a graph database, or who want to migrate to a graph database from SQL. It would be helpful to have some familiarity with Java and/or SQL, but no prior experience is required.

Graph Databases - Ian Robinson 2015

"The purpose of this book is to introduce graphs and graph databases to technology practitioners, including developers, database professionals, and technology decision makers. Reading this book will give you a practical understanding of graph databases. We show how the graph model "shapes" data, and how we query, reason about, understand, and act upon data using a graph database. We discuss the kinds of problems that are well aligned with graph databases, with examples drawn from actual real-world use cases, and we show how to plan and implement a graph database solution."--Preface.

Graph Databases in Action - Josh Perryman
2020-10-17

Graph Databases in Action introduces you to

graph database concepts by comparing them with relational database constructs. You'll learn just enough theory to get started, then progress to hands-on development. Discover use cases involving social networking, recommendation engines, and personalization. Summary Relationships in data often look far more like a web than an orderly set of rows and columns. Graph databases shine when it comes to revealing valuable insights within complex, interconnected data such as demographics, financial records, or computer networks. In Graph Databases in Action, experts Dave Bechberger and Josh Perryman illuminate the design and implementation of graph databases in real-world applications. You'll learn how to choose the right database solutions for your tasks, and how to use your new knowledge to build agile, flexible, and high-performing graph-powered applications! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Isolated data

is a thing of the past! Now, data is connected, and graph databases—like Amazon Neptune, Microsoft Cosmos DB, and Neo4j—are the essential tools of this new reality. Graph databases represent relationships naturally, speeding the discovery of insights and driving business value. About the book *Graph Databases in Action* introduces you to graph database concepts by comparing them with relational database constructs. You'll learn just enough theory to get started, then progress to hands-on development. Discover use cases involving social networking, recommendation engines, and personalization. What's inside *Graph databases vs. relational databases* Systematic graph data modeling Querying and navigating a graph Graph patterns Pitfalls and antipatterns About the reader For software developers. No experience with graph databases required. About the author Dave Bechberger and Josh Perryman have decades of experience building complex data-driven systems and have worked with graph

databases since 2014. Table of Contents PART 1 - GETTING STARTED WITH GRAPH DATABASES 1 Introduction to graphs 2 Graph data modeling 3 Running basic and recursive traversals 4 Pathfinding traversals and mutating graphs 5 Formatting results 6 Developing an application PART 2 - BUILDING ON GRAPH DATABASES 7 Advanced data modeling techniques 8 Building traversals using known walks 9 Working with subgraphs PART 3 - MOVING BEYOND THE BASICS 10 Performance, pitfalls, and anti-patterns 11 What's next: Graph analytics, machine learning, and resources *The Digital Journey of Banking and Insurance, Volume III* - Volker Liermann 2021-10-27 This book, the third one of three volumes, focuses on data and the actions around data, like storage and processing. The angle shifts over the volumes from a business-driven approach in “Disruption and DNA” to a strong technical focus in “Data Storage, Processing and Analysis”, leaving “Digitalization and Machine Learning

Applications” with the business and technical aspects in-between. In the last volume of the series, “Data Storage, Processing and Analysis”, the shifts in the way we deal with data are addressed.

REST in Practice - Jim Webber 2010-09-17

REST continues to gain momentum as the best method for building Web services, and this down-to-earth book delivers techniques and examples that show how to design and implement integration solutions using the REST architectural style.

Visualizing Graph Data - Corey Lanum

2016-11-23

Summary Visualizing Graph Data teaches you not only how to build graph data structures, but also how to create your own dynamic and interactive visualizations using a variety of tools. This book is loaded with fascinating examples and case studies to show you the real-world value of graph visualizations. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub

formats from Manning Publications. About the Technology Assume you are doing a great job collecting data about your customers and products. Are you able to turn your rich data into important insight? Complex relationships in large data sets can be difficult to recognize. Visualizing these connections as graphs makes it possible to see the patterns, so you can find meaning in an otherwise over-whelming sea of facts. About the Book Visualizing Graph Data teaches you how to understand graph data, build graph data structures, and create meaningful visualizations. This engaging book gently introduces graph data visualization through fascinating examples and compelling case studies. You'll discover simple, but effective, techniques to model your data, handle big data, and depict temporal and spatial data. By the end, you'll have a conceptual foundation as well as the practical skills to explore your own data with confidence. What's Inside Techniques for creating effective visualizations Examples using the Gephi and

KeyLines visualization packages Real-world case studies About the Reader No prior experience with graph data is required. About the Author Corey Lanum has decades of experience building visualization and analysis applications for companies and government agencies around the globe. Table of Contents PART 1 - GRAPH VISUALIZATION BASICS Getting to know graph visualization Case studies An introduction to Gephi and KeyLines PART 2 VISUALIZE YOUR OWN DATA Data modeling How to build graph visualizations Creating interactive visualizations How to organize a chart Big data: using graphs when there's too much data Dynamic graphs: how to show data over time Graphs on maps: the where of graph visualization

Neo4j Graph Data Modeling - Mahesh Lal
2015-07-27

Neo4j is a graph database that allows you to model your data as a graph and find solutions to complex real-world problems that are difficult to solve using any other type of database. This book

is designed to help you understand the intricacies of modeling a graph for any domain. The book starts with an example of a graph problem and then introduces you to modeling non-graph problems using Neo4j. Concepts such as the evolution of your database, chains, access control, and recommendations are addressed, along with examples and are modeled in a graph. Throughout the book, you will discover design choices and trade-offs, and understand how and when to use them. By the end of the book, you will be able to effectively use Neo4j to model your database for efficiency and flexibility.

Neo4j in Action - Tareq Abedrabbo 2014-12-05
Summary Neo4j in Action is a comprehensive guide to Neo4j, aimed at application developers and software architects. Using hands-on examples, you'll learn to model graph domains naturally with Neo4j graph structures. The book explores the full power of native Java APIs for graph data manipulation and querying. Purchase of the print book includes a free eBook in PDF,

Kindle, and ePub formats from Manning Publications. About the Technology Much of the data today is highly connected—from social networks to supply chains to software dependency management—and more connections are continually being uncovered. Neo4j is an ideal graph database tool for highly connected data. It is mature, production-ready, and unique in enabling developers to simply and efficiently model and query connected data. About the Book Neo4j in Action is a comprehensive guide to designing, implementing, and querying graph data using Neo4j. Using hands-on examples, you'll learn to model graph domains naturally with Neo4j graph structures. The book explores the full power of native Java APIs for graph data manipulation and querying. It also covers Cypher, Neo4j's graph query language. Along the way, you'll learn how to integrate Neo4j into your domain-driven app using Spring Data Neo4j, as well as how to use Neo4j in standalone server or embedded modes.

Knowledge of Java basics is required. No prior experience with graph data or Neo4j is assumed. What's Inside Graph database patterns How to model data in social networks How to use Neo4j in your Java applications How to configure and set up Neo4j About the Authors Aleksa Vukotic is an architect specializing in graph data models. Nicki Watt, Dominic Fox, Tareq Abedrabbo, and Jonas Partner work at OpenCredo, a Neo Technology partner, and have been involved in many projects using Neo4j. Table of Contents PART 1 INTRODUCTION TO NEO4J A case for a Neo4j database Data modeling in Neo4j Starting development with Neo4j The power of traversals Indexing the data PART 2 APPLICATION DEVELOPMENT WITH NEO4J Cypher: Neo4j query language Transactions Traversals in depth Spring Data Neo4j PART 3 NEO4J IN PRODUCTION Neo4j: embedded versus server mode **A Librarian's Guide to Graphs, Data and the Semantic Web** - James Powell 2015-07-09 Graphs are about connections, and are an

important part of our connected and data-driven world. *A Librarian's Guide to Graphs, Data and the Semantic Web* is geared toward library and information science professionals, including librarians, software developers and information systems architects who want to understand the fundamentals of graph theory, how it is used to represent and explore data, and how it relates to the semantic web. This title provides a firm grounding in the field at a level suitable for a broad audience, with an emphasis on open source solutions and what problems these tools solve at a conceptual level, with minimal emphasis on algorithms or mathematics. The text will also be of special interest to data science librarians and data professionals, since it introduces many graph theory concepts by exploring data-driven networks from various scientific disciplines. The first two chapters consider graphs in theory and the science of networks, before the following chapters cover networks in various disciplines. Remaining

chapters move on to library networks, graph tools, graph analysis libraries, information problems and network solutions, and semantic graphs and the semantic web. Provides an accessible introduction to network science that is suitable for a broad audience Devotes several chapters to a survey of how graph theory has been used in a number of scientific data-driven disciplines Explores how graph theory could aid library and information scientists

Practical Neo4j - Gregory Jordan 2014-12-29
Why have developers at places like Facebook and Twitter increasingly turned to graph databases to manage their highly connected big data? The short answer is that graphs offer superior speed and flexibility to get the job done. It's time you added skills in graph databases to your toolkit. In *Practical Neo4j*, database expert Greg Jordan guides you through the background and basics of graph databases and gets you quickly up and running with Neo4j, the most prominent graph database on the market today. Jordan walks you

through the data modeling stages for projects such as social networks, recommendation engines, and geo-based applications. The book also dives into the configuration steps as well as the language options used to create your Neo4j-backed applications. Neo4j runs some of the largest connected datasets in the world, and developing with it offers you a fast, proven NoSQL database option. Besides those working for social media, database, and networking companies of all sizes, academics and researchers will find Neo4j a powerful research tool that can help connect large sets of diverse data and provide insights that would otherwise remain hidden. Using Practical Neo4j, you will learn how to harness that power and create elegant solutions that address complex data problems. This book: Explains the basics of graph databases Demonstrates how to configure and maintain Neo4j Shows how to import data into Neo4j from a variety of sources Provides a working example of a Neo4j-based application

using an array of language of options including Java, .Net, PHP, Python, Spring, and Ruby As you'll discover, Neo4j offers a blend of simplicity and speed while allowing data relationships to maintain first-class status. That's one reason among many that such a wide range of industries and fields have turned to graph databases to analyze deep, dense relationships. After reading this book, you'll have a potent, elegant tool you can use to develop projects profitably and improve your career options.

Occupational Outlook Handbook - United States. Bureau of Labor Statistics 1976

Learning Neo4j 3.x - Jerome Baton 2017-10-20
Run blazingly fast queries on complex graph datasets with the power of the Neo4j graph database About This Book Get acquainted with graph database systems and apply them in real-world use cases Use Cypher query language, APOC and other Neo4j extensions to derive meaningful analysis from complex data sets. A

practical guide filled with ready to use examples on querying, graph processing and visualizing information to build smarter spatial applications. Who This Book Is For This book is for developers who want an alternative way to store and process data within their applications. No previous graph database experience is required; however, some basic database knowledge will help you understand the concepts more easily. What You Will Learn Understand the science of graph theory, databases and its advantages over traditional databases. Install Neo4j, model data and learn the most common practices of traversing data Learn the Cypher query language and tailor-made procedures to analyze and derive meaningful representations of data Improve graph techniques with the help of precise procedures in the APOC library Use Neo4j advanced extensions and plugins for performance optimization. Understand how Neo4j's new security features and clustering architecture are used for large scale

deployments. In Detail Neo4j is a graph database that allows traversing huge amounts of data with ease. This book aims at quickly getting you started with the popular graph database Neo4j. Starting with a brief introduction to graph theory, this book will show you the advantages of using graph databases along with data modeling techniques for graph databases. You'll gain practical hands-on experience with commonly used and lesser known features for updating graph store with Neo4j's Cypher query language. Furthermore, you'll also learn to create awesome procedures using APOC and extend Neo4j's functionality, enabling integration, algorithmic analysis, and other advanced spatial operation capabilities on data. Through the course of the book you will come across implementation examples on the latest updates in Neo4j, such as in-graph indexes, scaling, performance improvements, visualization, data refactoring techniques, security enhancements, and much more. By the end of the book, you'll have gained

the skills to design and implement modern spatial applications, from graphing data to unraveling business capabilities with the help of real-world use cases. Style and approach A step-by-step approach of adopting Neo4j, the world's leading graph database. This book includes a lot

of background information, helps you grasp the fundamental concepts behind this radical new way of dealing with connected data, and will give you lots of examples of use cases and environments where a graph database would be a great fit