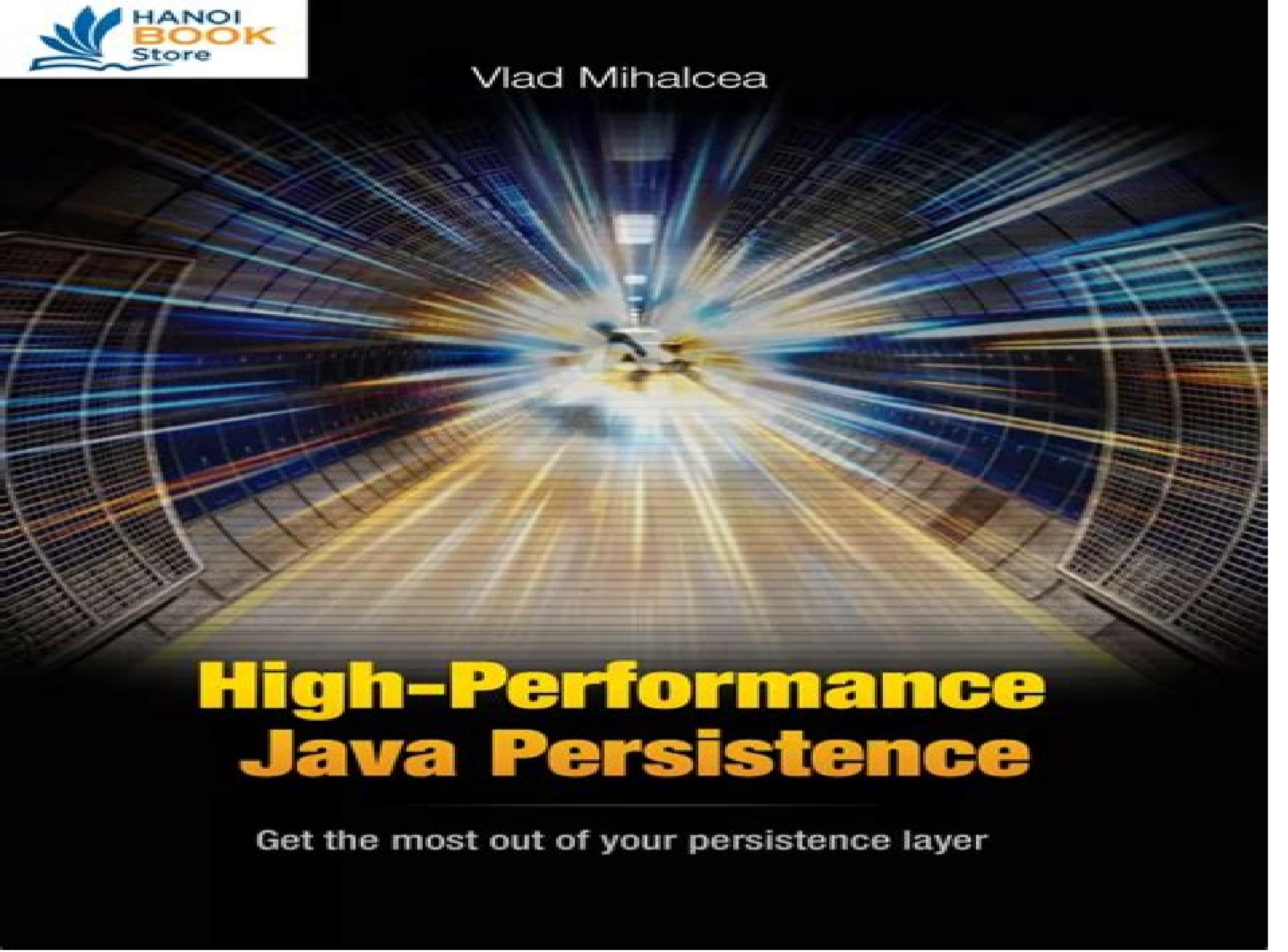


Vlad Mihalcea



# **High-Performance Java Persistence**

Get the most out of your persistence layer

# High Performance Java Persistence

**Carla Sadtler, Fabio Albertoni, Jan Bajerski, Davide Barillari, Libor Cada, Susan Hanson, Guo Liang Huang, Rispna Jain, Gabriel Knepper Mendes, Catalin Mierlea, Shishir Narain, Sergio Pinto, Jennifer Ricciuti, Christian Steege, IBM Redbooks**

## **High Performance Java Persistence:**

High-Performance Java Persistence Vlad Mihalcea, 2016-10-12 A high performance data access layer must resonate with the underlying database system Knowing the inner workings of a relational database and the data access frameworks in use can make the difference between a high performance enterprise application and one that barely crawls This book is a journey into Java data access performance tuning From connection management to batch updates fetch sizes and concurrency control mechanisms it unravels the inner workings of the most common Java data access frameworks The first part aims to reduce the gap between application developers and database administrators For this reason it covers both JDBC and the database fundamentals that are of paramount importance when reducing transaction response times In this first part you ll learn about connection management batch updates statement caching result set fetching and database transactions The second part demonstrates how you can take advantage of JPA and Hibernate without compromising application performance In this second part you ll learn about the most efficient Hibernate mappings basic types associations inheritance fetching best practices caching and concurrency control mechanisms The third part is dedicated to jOOQ and its powerful type safe querying capabilities like window functions common table expressions upsert stored procedures and database functions

**Java Persistence with NoSQL** Otávio Santana, 2024-03-08 Unlock infinite possibilities Java NoSQL Enterprise excellence KEY FEATURES Gain expertise with the theory and practice of NoSQL databases Master Java principles and code design for NoSQL incorporation Learn to integrate NoSQL databases into robust enterprise architectures DESCRIPTION Java Persistence with NoSQL is a comprehensive guide that offers a unique blend of theoretical knowledge and practical implementation making it an invaluable resource for those seeking to excel in their roles The book is divided into four parts covering essential NoSQL concepts Java principles Jakarta EE integration and the integration of NoSQL databases into enterprise architectures Readers will explore NoSQL databases comparing their strengths and use cases They will then master Java coding principles and design patterns necessary for effective NoSQL integration The book also discusses the latest Jakarta EE specifications enhancing readers understanding of Jakarta s role in data storage and retrieval Finally readers will learn to implement various NoSQL databases into enterprise grade solutions ensuring security high availability and fault tolerance With hands on exercises real world examples and best practices this book equips professionals with the skills and knowledge needed to excel in building robust and scalable Java applications using NoSQL databases WHAT YOU WILL LEARN Mastering NoSQL concepts and choosing the right database solutions Integrating NoSQL databases into Java and Jakarta EE applications Implementing Java design patterns for efficient data persistence Leveraging Jakarta EE and MicroProfile for enhanced Java architecture Designing enterprise grade solutions with NoSQL databases for high availability WHO THIS BOOK IS FOR This book is tailored for senior engineers architects Java developers and NoSQL enthusiasts who want to deepen their understanding of NoSQL databases within the Java ecosystem TABLE OF CONTENTS 1 Introduction to

NoSQL Databases 2 NoSQL Databases A Comparative Analysis 3 Running NoSQL in Production Best Practices and Considerations 4 Streamlining Java Application Integration with Frameworks 5 Java Persistence Design Pattern 6 Java Architecture and Persistence Layer 7 Introduction to Jakarta EE and MicroProfile 8 Advanced Validation Techniques with Jakarta Bean Validation 9 Enhance Object oriented Programming with CDI 10 Implementing Rest with JAX RS 11 Introduction to Jakarta EE NoSQL and Data 12 Redis Integration 13 Cassandra Integration 14 MongoDB Integration 15 Neo4J Integration 16 ArangoDB and Couchbase Integration 17 Final Considerations

*Troubleshooting Java Performance*  
Erik Ostermueller, 2017-09-30

Troubleshoot the most widespread and pernicious Java performance problems using a set of open source and freely available tools that will make you dramatically more productive in finding the root causes of slow performance This is a brief book that focuses on a small number of performance anti patterns and you ll find that most problems you encounter fit into one of these anti patterns The book provides a specific method in a series of steps referred to as the P A t h Checklist that encompasses persistence alien systems threads and heap management These steps guide you through a troubleshooting process that is repeatable that you can apply to any performance problem in a Java application This technique is especially helpful in dark environments with little monitoring Performance problems are not always localized to Java but often fall into the realms of database access and server load This book gives attention to both of these issues through examples showing how to identify repetitive SQL and identify architecture wide performance problems ahead of production rollout Learn how to apply load like an expert and determine how much load to apply to determine whether your system scales Included are walk throughs of a dozen server side performance puzzles that are ready to run on your own machine Following these examples helps you learn to Assess the performance health of four main problems areas in a Java system The P A t h Checklist presents each area with its own set of plug it in now tools Pinpoint the code at fault for CPU and other bottlenecks without a Java profiler Find memory leaks in just minutes using heapSpank the author s open source leak detector utility that is freely available from heapSpank org The repeatable method provided in this book is an antidote to lackluster average response times that are multi second throughout the industry This book provides a long absent easy to follow performance training regimen that will benefit anyone programming in Java What You ll Learn Avoid the 6 most common ways to mess up a load test Determine the exact number of threads to dial into the load generator to test your system s scalability Detect the three most common SQL performance anti patterns Measure network response times of calls to back end systems alien systems Identify whether garbage collection performance is healthy or unhealthy and whether delays are caused by problems in the old or new generation so you know which generation needs to be adjusted Who This Book Is For Intermediate and expert Java developers and architects Java experts will be able to update their skill set with the latest and most productive open source Java performance tools Intermediate Java developers are exposed to the most common performance defects that repeatedly show up in Java applications ones that account for the bulk of slow performing

systems Experts and intermediates alike will benefit from the chapters on load generation

**Spring Security in Action, Second Edition** Laurentiu Spilca, 2024-05-14 Design and develop Spring applications that are secure right from the start In Spring Security in Action Second Edition you will learn essential security skills including how to Implement and customize authentication and authorization Set up all components of an OAuth 2 OpenID Connect system Utilize CSRF and CORS configurations Secure Spring reactive applications Write tests for security configurations About the technology Spring Security is essential for any Java developer looking to master authentication and authorization in Spring apps By adopting secure by design principles with Spring Security s out of the box features you can protect your apps from data theft and unauthorized intrusions

*Rapid Java Persistence and Microservices* Raj Malhotra, 2019-06-19 Gain all the essentials you need to create scalable microservices which will help you solve real challenges when deploying services into production This book will take you through creating a scalable data layer with polygot persistence You ll cover data access and query patterns in Spring and JPA in high performance environments As part of this topic you ll see the advantages of multiple persistence frameworks in Java and especially the easy persistence offered by NoSQL databases and reactive web solutions The last few chapters present advanced concepts that are useful for very high performance real time applications you ll implement applications using Spring s good support for Web sockets in their raw form as well as for connecting to message brokers such as RabbitMQ This can be useful for applications such as navigation systems and gaming platforms What You Will Learn Build end to end modern applications using microservices persistence essentials reactive web and other high performance concepts Master Spring s configuration options Secure microservices efficiently Monitor your services post deployment Who This Book Is For Java developers and architects interested in microservices

**Just Use Postgres!** Denis Magda, 2025-12-16 You probably don t need a collection of specialty databases Just use Postgres instead Written for application developers and database pros Just Use Postgres shows you how to get the most out of the powerful Postgres database In Just Use Postgres you ll learn how to Use Postgres as an RDBMS for transactional workloads Develop generative AI geospatial and time series applications Take advantage of modern SQL including window functions and CTEs Perform full text search and process JSON documents Use Postgres as a message queue Optimize performance with various index types including B trees GIN GiST HNSW and more Over the decades PostgreSQL aka Postgres has grown into the most powerful general purpose database and has become the de facto standard for developers worldwide Just Use Postgres takes a modern look at Postgres exploring the database s most up to date features for AI time series full text search geospatial and other application workloads About the Technology You know that PostgreSQL is a fast reliable SQL compliant RDBMS You may not know that it s also great for geospatial systems time series full text search JSON documents AI vector embeddings and many other specialty database functions For almost any data task you can imagine you can use Postgres About the Book Just Use Postgres covers recipes for using Postgres in dozens of applications normally reserved for single purpose databases Written

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international conference speaker Table of Contents PART 1 CLOUD NATIVE FUNDAMENTALS 1 Introduction to cloud native 2 Cloud native patterns and technologies PART 2 CLOUD NATIVE DEVELOPMENT 3 Getting started with cloud native development 4 Externalized configuration management 5 Persisting and managing data in the cloud 6 Containerizing Spring Boot 7 Kubernetes fundamentals for Spring Boot PART 3 CLOUD NATIVE DISTRIBUTED SYSTEMS 8 Reactive Spring Resilience and scalability 9 API gateway and circuit breakers 10 Event driven applications and functions 11 Security Authentication and SPA 12 Security Authorization and auditing

WebSphere Application Server V8.5 Concepts, Planning, and Design Guide Carla Sadtler, Fabio Albertoni, Jan Bajerski, Davide Barillari, Libor Cada, Susan Hanson, Guo Liang Huang, Rispna Jain, Gabriel Knepper Mendes, Catalin Mierlea, Shishir Narain, Sergio Pinto, Jennifer Ricciuti, Christian Steege, IBM Redbooks, 2013-08-01 This IBM Redbooks publication provides information about the concepts planning and design of IBM WebSphere Application Server V8 5 environments The target audience of this book is IT architects and consultants who want more information about the planning and design of application serving environments from small to large and complex implementations This book addresses the packaging and features in WebSphere Application Server and highlights the most common implementation topologies It provides information about planning for specific tasks and components that conform to the WebSphere Application Server environment Also in this book are planning guidelines for Websphere Application Server and Websphere Application Server Network Deployment on distributed platforms It also includes guidelines for WebSphere Application Server for IBM z OS This book contains information about migration considerations when moving from previous releases This book has been updated with the new features introduced with WebSphere Application Server V8 5 5

**Java Persistence for Relational Databases** Richard Sperko, 2003-07 Java Persistence for Relational Databases is chock full of best practices and patterns for those of you who want to connect to databases using Java Coverage includes various database related APIs for Java like JDO JDBC including the newest 3 0 APIs and CMP Container Managed Persistence with EJB All those things you developers have wanted to know but were afraid to ask are featured inside this book It offers a realistic and multi angled look at persisting Java objects Whether your environment requires you to use JDO CMP Castor or to hand code a persistence layer using JDBC the answers all lie inside this book

Java Performance Charlie Hunt, Binu John, 2011-10-04 The definitive master class in performance tuning Java applications if you love all the gory details this is the book for you James Gosling creator of the Java Programming Language Improvements in the Java platform and new multicore multiprocessor hardware have made it possible to dramatically improve the performance and scalability of Java software Java™ Performance covers the latest Oracle and third party tools for monitoring and measuring performance on a wide variety of hardware architectures and operating systems The authors present dozens of tips and tricks you ll find nowhere else You ll learn how to construct experiments that identify opportunities for optimization interpret the results and take effective action You ll also find powerful insights into

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**OCM Java EE 6 Enterprise Architect Exam Guide (Exams 1Z0-807, 1Z0-865 & 1Z0-866)** Paul R. Allen, Joseph J. Bambara, 2014-08-15 A Complete Study System for OCM Exams 1Z0 807 1Z0 865 and 1Z0 866 Prepare for the Oracle Certified Master Java EE 6 Enterprise Architect exams with this exclusive Oracle Press guide The multiple choice exam the assignment and the essay exam are covered Chapters feature challenging exercises a certification summary a two minute drill and a self test to reinforce the topics presented This authoritative resource helps you pass these exams and also serves as an essential on the job reference Get complete coverage of all exam objectives including Application design concepts and principles Common architectures Integration and messaging Business tier technologies Web tier technologies Design patterns Security Electronic content includes 120 multiple choice practice exam questions Test engine that provides practice exams and customized quizzes by chapter *JAVA Developer's Journal*, 1996 *Oracle WebLogic Server 12c Administration Handbook* Sam R. Alapati, 2014-05-16 Best Practices for Oracle WebLogic Server 12c Configuration and Administration Maintain a high performance enterprise application framework using the detailed information in this authoritative resource Through expert instruction and real world examples Oracle WebLogic Server 12c Administration Handbook fully explains the latest management tools and techniques Learn how to work from the Oracle WebLogic Server Administration Console or command line configure servers and clusters deploy applications and optimize application performance Tuning troubleshooting and load balancing are thoroughly covered in this Oracle Press guide Install Oracle WebLogic Server 12c or perform an upgrade Manage domains server instances networks and virtual hosts Work with the WebLogic Scripting Tool feature and Node Manager Build custom network channels and resource adapters Monitor performance with the WebLogic Diagnostics Framework feature Prioritize requests using Oracle WebLogic Server Work Managers Configure Oracle WebLogic clusters and migrate servers and services Deploy web applications Enterprise

JavaBeans and Java EE modules Establish security realms and authenticate and authorize users Allocate memory optimize throughput and tune the Java Virtual Machine A System Supporting High-performance Communication and I/O in Java Matt Welsh,1999 **IBM Systems Journal** International Business Machines Corporation,2004 **Handbook of Data Management, 2nd Edition** Bhavani Thuraisingham,1997-12-16 Spring Boot Persistence Best Practices Anghel Leonard,2020-04-29 This book is a collection of developer code recipes and best practices for persisting data using Spring particularly Spring Boot The book is structured around practical recipes where each recipe discusses a performance case or performance related case and almost every recipe has one or more applications Mainly when we try to accomplish something e.g read some data from the database there are several approaches to do it and in order to choose the best way you have to know the implied trades off from a performance perspective You ll see that in the end all these penalties slow down the application Besides presenting the arguments that favor a certain choice the application is written in Spring Boot style which is quite different than plain Hibernate Persistence is an important set of techniques and technologies for accessing and using data and this book demonstrates that data is mobile regardless of specific applications and contexts In Java development persistence is a key factor in enterprise ecommerce cloud and other transaction oriented applications After reading and using this book you ll have the fundamentals to apply these persistence solutions into your own mission critical enterprise Java applications that you build using Spring What You Will Learn Shape to many associations for best performances Effectively exploit Spring Projections DTO Learn best practices for batching inserts updates and deletes Effectively fetch parent and association in a single SELECT Learn how to inspect Persistent Context content Dissect pagination techniques offset and keyset Handle queries locking schemas Hibernate types and more Who This Book Is For Any Spring and Spring Boot developer that wants to squeeze the persistence layer performances SOA with Java Thomas Erl,Andre Tost,Satadru Roy,Philip Thomas,Raj Balasubramanian,David Chou,Thomas Plunkett,2014-06-17 An outstanding depth and breadth resource for IT architects and Java professionals to understand and apply the marriage of SOA and modern Java Antonio Bruno Enterprise Architecture and Strategy digitalStrom A great self contained book on SOA using flexible Java implementations Roger Stoffers Hewlett Packard Provides clarity on abstract concepts and is filled with concrete examples of implementing SOA principles in Java environments Sanjay Singh Certified SOA Architect provides a holistic comprehensive view on leveraging SOA principles and architecture for building and deploying performant Java services Suzanne D Souza KBACE Technologies Thomas Erl s series of books on services technology have shaped influenced and strengthened a whole community of enterprise and solution architects thinking and solution development and the much awaited SOA with Java book is an excellent addition to the series It is a must read Lalatendu Rath Wipro Technologies The Definitive Guide to Building Service Oriented Solutions with Lightweight and Mainstream Java Technologies Java has evolved into an exceptional platform for building Web based enterprise services In SOA with Java Thomas Erl and several world class experts guide you

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