

Preface

Why We Wrote This Book

Our research group at the Hasso Plattner Institute (HPI) in Potsdam, Germany conducts research in the area of in-memory data management for enterprise applications since 2006. Since then, the ideas and concepts behind dictionary-encoded column-oriented in-memory databases have gained much traction, not only due to the success of SAP HANA as the cutting-edge industry product. As this topic reached a broader audience, we felt the need for proper education in this area. This is of utmost importance as students and software developers have to understand the underlying concepts and technology in order to make most use of it.

At our institute, we have been teaching in-memory data management to students in a Master's course since 2009. When I learned about the current movement towards the direction of Massive Open Online Courses, I immediately decided that we should offer our course about in-memory data management to the public. On September 3, 2012 we launched our online lecture on the new e-learning platform <http://www.openHPI.de>. Since then, we granted more than 4,500 graded certificates to a total of over 28,000 participating learners. Please feel free to register at openHPI.de to be informed about upcoming lectures and take part in the next online course.

Several thousand people have already used our material in order to study for the homework assignments and final exam of this online course. This book is based on the reading material that we provided to the online community. In addition to that, we incorporated many suggestions for improvement as well as self-test questions and explanations. As a result, we provide you with a textbook teaching you the inner mechanics of a dictionary-encoded column-oriented in-memory database.

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Last but not least, I also want to thank our thousands of online learners for their suggestions that resulted in steady improvements in the learning material. We continuously aim to further improve the learning material provided in this book and hope for your valuable feedback. If you identify any flaws, please do not hesitate to contact me at hasso.plattner@hpi.uni-potsdam.de.

We are thankful for any kind of feedback and hope that the learning material will be further improved by the in-memory database community.

Potsdam, Germany

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The Inner Mechanics of In-Memory Databases

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