Developing Web Applications with Apache, MySQL®, memcached, and Perl

Adding a cache layer to the popular LAMP stack is becoming the common solution to significantly reduce the load on back-end databases, and also allows for better web application performance. This new caching component is represented by another "m" in LAMMP, which stands for memcached—a high-performance, distributed memory object caching system that provides caching for web applications. The author walks you through the process of using Perl to develop web applications both in terms of the front-end display logic as well as the back-end data retrieval from MySQL and memcached. You also see how to configure the Apache web server to run these mod_perl applications.

You'll discover that MySQL and memcached are where the data is stored, and Apache is the server that hosts this functionality. You'll also examine each system while you learn how to install, set up, and administer it. The book shows you how to put each of these systems together so you can start building successful applications. Helpful examples put in practice the information covered throughout the book and a problem-solving chapter offers real-world problems and the process of how you might go about finding a solution to them.

What you will learn from this book
- How to install, configure, and work with MySQL particularly basic concepts involving data, joins, and indexes as well as advanced usage of triggers, stored procedures, user-defined functions, storage engine usage, and more!
- A Perl refresher on basic concepts as well as how to work with data from MySQL using various Perl data types
- A chapter on object-oriented Perl
- How to install and configure Apache 2.2 to work with mod_perl 2.0
- How to use mod_perl handlers to develop web applications, including working with Ajax
- A sample search engine application that puts together the various technologies discussed in the book

Who this book is for
This book is for developers who want to write applications using MySQL, memcached, Apache, and Perl, and are interested in improving the development process and efficiency.

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# Developing Web Applications with Perl, memcached, MySQL® and Apache

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Developing Web Applications with Perl, memcached, MySQL® and Apache

Patrick Galbraith
To my wonderful wife, Ruth, whom I have known for 27 years and who has stood by me while writing this book, even when I couldn’t give her the time she deserved. Also, to my dear friend Krishna, who gave me inspiration every day.
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Patrick Galbraith lives up in the sticks of southwestern New Hampshire near Mt. Monadnock with his wife, Ruth. Since 1993, he has been using and developing open source software. He has worked on various open source projects, including MySQL, Federated storage engine, Memcached Functions for MySQL, Drizzle, and Slashcode, and is the maintainer of DBD::mysql. He has worked at a number of companies throughout his career, including MySQL AB, Classmates.com, OSDN/Slashdot. He currently works for Lycos. He is also part owner of a wireless broadband company, Radius North, which provides Internet service to underserved rural areas of New Hampshire. His web site, which comes by way of a 5.8GHz Alvarion access unit up in a pine tree, is http://patg.net.

About the Technical Editor

John Bokma is a self-employed Perl programmer and consultant from the Netherlands. He has been working professionally in software development since 1994, moving his primary focus more and more toward the Perl programming language. John and his wife, Esmeralda, currently live in the state of Veracruz, Mexico, with their daughter Alice. John’s other two children, Jim and Laurinda, live with their mother in New Zealand. For more information or to contact John, visit his web site at http://johnbokma.com/.
Acknowledgments

One weekend in 1993, I had the chance to go on a getaway to San Diego. Instead, I opted to stay home and download, onto 26 flappies, Slackware Linux, which I promptly installed onto my Packard Bell 386. I could never get the built-in video card to work with X, so I ended up buying a separate video card and had to edit my XConfig file to get it to work. How much more interesting this was to do than editing a config.sys and an autoexec.bat! From then on, I was hooked. I worked at Siemens Ultrasound Group in Issaquah, Washington, at the time. An engineer there named Debra, when asked what was a good thing to learn, said something I’ll never forget: “Learn Perl.” Debra — you were right!

I always wanted to be a C++ graphics programmer. That didn’t happen because of this thing called the World Wide Web. I remember Ray Jones and Randy Bentson of Celestial Software showing me a program called Mosaic, which allowed you to view text over the Internet. Images would be launched using XV. Everywhere I worked, I had to write programs that ran on the Web, which required me to write CGI in Perl. So much for my goal of being a C++ programmer — but I consider this a great trade for a great career. (I did eventually get to write C++ for MySQL!)

I would first like to thank my editor, Maureen Spears, who is not only a great editor, but also a friend. She gave me much-needed encouragement throughout the writing of this book.

A special thanks goes to John Bokma for his meticulous attention to detail and great knowledge of Perl — particularly with regard to Perl programming style and convention that I didn’t realize had changed over the last several years. I was somewhat set in my ways!

Thank you to Jenny Watson, who gave me the opportunity to write this book in the first place!

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Finally, I would like to thank the entire Open Source community. My life would not be the same without open source software.

There’s a verse in an ancient book, the Bhagavad Gita, that aptly describes how people like Monty Widenius, Linus Torvalds, Larry Wall, Brian Aker and other leaders within the Open Source community inspire the rest of us:

“Whatever action a great man performs, common men follow. And whatever standards he sets by exemplary acts, all the world pursues.”
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