Pro Drupal 7 Development

Third Edition

Todd Tomlinson
John K. VanDyk

Apress®

Pro Drupal 7 Development: Third Edition

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Foreword

Four years ago, I wrote the foreword for the first edition of this book. What was missing at that time was a developer book for Drupal. Since then, *Pro Drupal Development* has made an incredible contribution to Drupal's steady growth. I don't think I know a single Drupal developer who doesn't own a copy of the *Pro Drupal Development* book.

Drupal, through its open source nature, has become much greater than I ever imagined it would. What didn't change is the Drupal developer community's healthy desire to innovate, to respond to the ever-changing landscape of web development, and to provide web developers an almost infinite amount of flexibility. Change is a constant in the Drupal community and key to our success.

A lot of the success of Drupal today can be attributed to Drupal 6. However, from the day that Drupal 6 was released almost three years ago, we've been working really hard on Drupal 7. More than 800 individual contributors have patches included in Drupal 7 core. Drupal 7 will feature some of the biggest architectural changes in the history of Drupal, will ship with many API improvements, and will be able to power bigger sites than ever before. The net result is that Drupal 7 is an even better web application development platform than Drupal 6, and it will fuel a lot of Drupal's growth over the next years.

All these changes also mean that the previous *Pro Drupal Development* books went out of date. Fortunately, the third edition of this book fixes all that. This book covers all of the capabilities and developer facilities in Drupal 7, and provides deep insight into the inner workings and design choices behind Drupal 7.

Armed with this book and a copy of Drupal's source code, you have everything you need to become a Drupal expert. If, along the way, you have figured out how to do something better, with fewer lines of code or more elegantly and faster than before, get involved and help us make Drupal even better. I'd love to review and commit your Drupal core patches, and I'm sure many of the other contributors would too.

Dries Buytaert
Drupal Founder and Project Lead

About the Authors

■ **Todd Tomlinson** is the vice president of eGovernment Solutions at ServerLogic Corporation in Portland, Oregon. Todd's focus over the past 15 years has been on designing, developing, deploying, and supporting complex web solutions for public and private sector clients all around the world. He has been using Drupal as the primary platform for creating beautiful and feature-rich sites such as <http://arapahoelibraries.org/ald/>.

Prior to ServerLogic, Todd was the senior director of eBusiness Strategic Services for Oracle Corporation, where he helped Oracle's largest clients develop their strategic plans for leveraging the Web as a core component of their business. He is also the former vice president of Internet Solutions for Claremont Technology Group, vice president and CTO of Emerald Solutions, managing director for CNF Ventures, and a senior manager with Andersen Consulting/Accenture. Todd has a BS in computer science and an MBA, and he

is in the dissertation phase for his PhD.

Todd's passion for Drupal is evident in his obsession with evangelizing about the platform and his enthusiasm when speaking with clients about the possibilities of what they can accomplish using Drupal. If you want to see someone literally "light up," stop him on the street and ask him, "What is Drupal and what can it do for me?" He is also the author of Apress's *Beginning Drupal 7*.

■ **John K. VanDyk** began his work with computers on a black Bell and Howell Apple II by printing out and poring over the BASIC code for Little Brick Out in order to increase the paddle width. Later, he manipulated timing loops in assembly to give Pac-Man a larger time slice than the ghosts. Before discovering Drupal, John was involved with the UserLand Frontier community and used Plone before writing his own content management system (with Matt Westgate) using Ruby.

John is a senior web architect at Lullabot, a Drupal education and consulting firm. Before that, John was a systems analyst and adjunct assistant professor in the entomology department at Iowa State University of Science and Technology. His master's thesis focused on cold tolerance of deer ticks, and his

doctoral dissertation was on the effectiveness of photographically created three-dimensional virtual insects on undergraduate learning.

John lives with his wife Tina in Ames, Iowa. They homeschool their passel of children, who have become used to bedtime stories like "The Adventures of a Node Revision in the Land of Multiple Joins."

About the Technical Reviewers

■ **Joshua Brauer** jumped onto the World Wide Web as an aspiring technical journalism student working with content management systems in 1995. Since becoming a member of the Drupal community in 2003, Joshua has been involved with running Drupal sites of all sizes. In 2007 Joshua left work in IT management to devote his full-time professional effort to Drupal.

Joshua is one of the leaders of the Boise Drupal Users Group and can frequently be found giving talks at conferences, camps, local meetups, and anywhere else people are interested in hearing about Drupal. Joshua's writings about Drupal can be found online at <http://joshuabrauer.com>.

As a Drupalist at Acquia, Joshua works with customers from small sites to large enterprises on all phases of their Drupal experience, from pre-planning through hosting and operations. Joshua finds great inspiration in the Drupal community and its many significant accomplishments. When disconnected from the Web, Joshua can be found behind a camera, enjoying the wonderful variety of beautiful places on our planet.

■ **Robert Douglass** is the senior Drupal advisor at Acquia, Inc., a permanent member of the Drupal Association, and a founding member of Die Drupal-Initiative, Germany's Drupal-oriented nonprofit. He is active as a module maintainer, core contributor, and speaker at various Drupal events and conferences. His Apress projects include *Building Online Communities with Drupal, phpBB, and WordPress* (author, 2005), *Pro Drupal Development* (technical reviewer, 2007), and *Pro Drupal Development, Second Edition* (technical reviewer, 2008).

■ **Peter M. Wolanin** has been working with Drupal since late 2005, when a friend who had been a Howard Dean supporter involved him in a project to build a new Web presence for the local Democratic Party club, and they started building the site on Drupal 4.7 beta. Peter soon became as interested in the challenge of fixing bugs and adding features in Drupal core and contributed modules as he was in actual site building. He became a noted contributor to Drupal 5, 6, and 7, and a member of the Drupal documentation team. He joined the Drupal security team and was elected in 2010 as a permanent member of the Drupal Association. Peter joined the Acquia engineering team in 2008 and enjoys the company of his stellar colleagues. Before all this, Peter graduated cum laude from Princeton University, received a doctoral degree in physics from the University of Michigan, and conducted post-doctoral and industrial research in biophysics and molecular biology.

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Beth, for your never-ending support, encouragement, love, and laughter—thank you for bringing back the ability to dream big about the future.

My daughters, Anna, Alissa, and Emma, for giving up countless hours of time with Dad while I wrote the book.

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My grandmother, for sparking the fire to become an author.

Dries, without your vision and passion for the platform, there wouldn’t be a *Pro Drupal Development* book.

The Aquia team, for jumping in and lending your support while I tackled the tough sections of the book Webchick (a.k.a. Angie Byron), for your dedication to the platform and your relentless efforts to launch Drupal 7.

The thousands of developers who have contributed to the platform to make it what it is today.

My clients, for embracing the technology and sharing the excitement over what it can do.

Jason, Darren, Kathryn, and Steve—my teammates who wake up every morning excited to discover something new that Drupal can do—for putting up with my wild dreams about how Drupal can do anything.

Introduction

In its relatively short life, Drupal has had a tremendous impact on the landscape of the Internet. As a web content management system, Drupal has enabled the creation of feature- and content-rich web sites for organizations large and small. As a web application framework, Drupal is changing the way that people think about web application development. When I experienced the power of the Drupal platform for the first time, I knew that it was something more than just another content management solution. When I saw how easily and quickly I could build feature-rich web sites, I shifted gears and focused my entire career around Drupal.

I'm often asked the question, "What is Drupal?" The short answer is Drupal is an open source web content management system that allows you to quickly and easily create simple to complex web sites that span everything from a simple blog to a corporate web site, a social networking web site, or virtually anything you can dream up. What you can build with Drupal is limited only to your imagination, the time you have to spend with the platform, and your knowledge about Drupal's capabilities—which is the impetus behind this book.

As an open source platform, Drupal's community is constantly improving the platform and extending the functionality of the core platform by creating new and exciting add-on modules. If there's a new concept created on the Web, it's likely that there will be a new Drupal module that enables that concept in a matter of days. It's the community behind the platform that makes Drupal what it is today, and what it will become in the future. I'll show you how to leverage the features contributed by the community, making it easy for you to build incredible solutions with minimal effort.

The very act of picking up this book is the first step in your journey down the path of learning how to use Drupal. If you will walk with me through the entire book, you'll have the knowledge and experience to build complex and powerful Drupal-based web sites. You'll also have the foundation necessary to move beyond the basics, expanding on the concepts I cover in this book.

Learning Drupal is like learning every new technology. There will be bumps and hurdles that cause you to step back and scratch your head. I hope the book helps smooth the bumps and provides you with enough information to easily jump over those hurdles. I look forward to seeing your works on the Web and hope to bump into you at an upcoming DrupalCon.

I will end on a note of carefree abandon—learn to steal! Once you've learned the pieces of the puzzle and how to combine them, there is very little new to invent. Every new idea you discover is a mere permutation of the old ideas. And ideas are free! Every cool feature discussed on TV shows or presented in the brochures or web sites of commercial HA companies can be taken, adapted, and implemented with the information presented here using very little effort. And then you will graduate from an automated home to a smart home to a personalized smart home!