



# How Linux Works: What Every Superuser Should Know

*Brian Ward*

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## **How Linux Works: What Every Superuser Should Know** Brian Ward

*How Linux Works* reveals the inner workings of the Linux system, with in-depth coverage of topics such as device management, the boot sequence, system management basics, and networking. Author Brian Ward combines background theory and real-world examples to show you both "how" to administer Linux and "why" each technique works. This updated edition of the classic Linux reference explores the kernel in greater detail, with coverage of system calls, input and output, and file systems.

With this essential guide, you'll learn everything you need to know to customize your system, solve problems, and make your computer work for you.

## **How Linux Works: What Every Superuser Should Know Details**

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## From Reader Review How Linux Works: What Every Superuser Should Know for online ebook

### Todd N says

Got the 2nd edition.

My son and I built a Linux computer last year, so I was looking for a book that would serve as a good reference for him as well as a good way for me to brush up.

I've used Linux or some flavor of Unix or BSD for most of my career, though I've focused on different areas at different times. Even though I knew at least half of it, some of my knowledge was out of date — they are rewriting init??? — and it's always good to read through a topic systematically rather than picking it up on the streets like I did. For example, I've dinked around with BIOS and Grub and init separately but never really stopped to think about how they might be interconnected.

Towards the end the book gets a little scattershot with topics on shell scripting and file copying, but I consider this bonus material after all the good coverage of internals. And there are lots of pointers to further reading.

In the end I think this book is too advanced for my son, but it helped my understanding to the point where I can explain things more clearly to him.

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### Tassos says

A good book, neither too advanced nor too basic. However, even though I'm not a super advanced Linux user myself, there are not so many things that this book had to offer.

One thing I certainly missed was more complete examples of commands and more hands on tasks for the reader.

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### Colin Jacobs says

#### Make the transition to true understanding

I've been a competent Linux user for years but just recently have decided to become more of a real Linux geek. Every page of this book is pure gold. Although the book starts off with some real introductory material such as what is a shell and how to list files in a directory, it soon gets into the details and doesn't spare them at all. Developing a real understanding of how it all fits together has been a pleasure and Ward has answered so many questions I hardly knew I had. The text is very readable, with a few exceptions that are forgivable as they are a valuable reference.

I will say though that this book is a poor primer on getting up to speed with Linux as a user. You have to really want to know the details, details most people will have relatively little use for. But for getting under the hood it's great.

And now I finally feel equipped to start building my own Arch configuration.

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### **Christopher says**

For making a book about Linux only ~340 pages long, it's hard to find one this complete and educational. Out of the dozens of books I've bought on Linux, this is the one I keep turning to over and over again.

True, with the more recent live-cd's and other gadgets made for the general public, you may not use some of the things written in this book (old utilities, &c) but it really has everything you should know to maintain and develop on these systems.

Especially if you're going to install Linux on some old'n'busted machines or some low-powered embedded systems that can't handle all the bloat of the name-brand SUSE/RedHat/Ubuntu shizzle, you'll find this book invaluable.

The author did a GREAT job on this. I couldn't come 1/10th as close as he did to perfection, and this is coming from a guy that keeps reading his book.

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### **Dan Watts says**

Linux is such a vast and ever-changing topic that it seems ill-advised to learn it from a book. Indeed, the majority of Linux books from large publishers are at least 10 years old, as most have given up on the idea. This is one of the few recent publications -- the 2nd edition was a little over 3 years old at the time I started reading it -- and at this point its contents are not too dated.

I use Linux almost every day, having learned it mostly from web-based articles. I started the book with the intention of just picking through it to find things I didn't already know, but it's so well written and accessible that I ended up reading it cover-to-cover. At 392 pages it's actually one of the shorter Linux books out there, but that's because the author does a good job of focusing on things that are useful and non-obvious.

This isn't a "getting started with.." book for newcomers, but it's a great way of refreshing and updating the know-how of intermediate Linux users.

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### **AJ says**

I absolutely love this book.

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### **Anton Petkov says**

I can say with confidence that this is one of the most useful books I have ever read as a beginner. I like the fact that the book covers so many topics and it gives you a very good jump start as a Linux user. I would recommend this book to everyone who wants an introduction to Linux at a beginner or intermediate level.

I bought the paperback copy of the second edition of How Linux Works and read it with pleasure while commuting. I read the book while attending the Operating Systems and Computer Networks courses in the university where I studied and practiced almost everything covered in the book.

Wish I had read this book earlier.

EDIT: I finished the Operating Systems course with the 2nd highest score from more than 100 people after finishing the book. And the next year I became a teaching assistant for this course and I started teaching GNU/Linux. I am doing it 2nd year in a row now. Of course, I read other sources too, but this book gave me the jump start. Thank you!

How far can this book take YOU?

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## Jascha says

Another great title published by No Starch Press. If you are a Linux power user, Brian definitely knows how to properly feed your desire to know more about what's happening under the hood, without getting into the details of titles such as The Linux Programming Interface or Advanced Programming in the UNIX Environment. Easy to read and follow, it's a long long talk about many of the topics that make Linux what it is today.

I don't remember a single tech book published by No Starch Press that did not deliver. How Linux Works certainly does. It gives the reader a good understanding of many hot topics of the Linux internals without getting too technical. It's like a long long talk with one of those friendly geek guys that has been tinkering the kernel forever.

Brian covers many different subject. Among them, I have absolutely enjoyed the chapter dedicated to the booting process. Here the author gives you both an overall and a specific vision of the whole process, from boot loaders to the different major init implementation (systemd, Upstart, and System V).

Another juicy chapter is that dedicated to networking and firewalls. Lots and lots of concepts to learn and notes to take.

The book ends with several chapters dedicated to developers. These cover some basic shell scripting and developing. Not my favorite part of the book. Mainly, there are other titles that cover those subject in depth (see above).

Overall, a very nice title for anyone interested in knowing how Linux works, without getting too technical.

Suggested readings:

Linux Shell Scripting Cookbook: a very similar title, but focused towards scripting and thus, a little more oriented to System Administrators, rather than Power Users.

As usual, you can find more reviews on my personal blog: <http://books.lostinmalloc.com> Feel free to pass by and share your thoughts!

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## Daniel Q says

Good book, but not as good or complete as the blurb suggests. It does cover a lot of ground, but most of the time it is superficial. A few times it looked like it drifted away from the subject when it was getting really interesting. The "real-world examples" are few and not very helpful.

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## Dale says

After a brief chapter on the most basic of GNU/Linux command-line tools, Ward dives right into Linux internals, starting with a lengthy walk-through of the boot process. followed by in-depth coverage of devices, file systems, and networking.

The final third of the book covers applications, the desktop, and development tools.

I can see this being useful as a thorough introduction to Linux for someone who plans to spend a lot of time doing Linux-y things; and also as a refresher/tutorial/quasi-reference if you want to do something like setup a samba server or figure out how to get a printer connected.

Overall good clear linear exposition.

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## Farid Samadov says

Book could look boring for advanced users, but nevertheless, there's always something new.

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## Miguel says

Absolutely the best Linux book I've read.

A good mix of practical and theoretical content really lives up to the title "What every superuser should know". I've been using Linux for quite some time but there are a few things I never quite understood but the book really helped me learn it and manipulate it like an expert.

I will say I recommend, anyone reading have at least an intermediate level understanding of Linux. If you're a beginner I would say try another book and come back to this once you've cut your teeth on a few compiler problems.

Highly recommended!

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## Laura Stone says

I've been reading quite a few books on Linux recently, and this one has been the most comprehensive and

technical. It was actually a bit of a challenge for me to get through, and I took a lot of notes.

The author does not always articulate himself as clearly as I would like, but it covered a lot of concepts relevant to the LPIC-1 exam (including the boot process, bash scripting, libraries, managing files, etc.) plus more, and did so in far greater depth than a lot of the other material I've been using.

I would recommend this book, but only to someone who is already somewhat familiar with Linux, programming, and computers.

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### **Prabhu Pant says**

Quite decent and informative! This is a kind of a book that should be pursued with ease.

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### **Michael Koltsov says**

This book doesn't claim to cover all Linux features, but definitely it covers some of the most important ones.

It's easy to read, though it encompasses lots of useful information. I wish my first Linux book was like that.

The only complaint I had with it was that though its second edition has been recently issued and it wasn't strictly specified on which Linux distribution should I run some of the commands from the book I wasn't able to try some of them due to that there were no such packages in the APT repository for reference Ubuntu Docker image I've been using.

This is definitely not a book I would recommend to a SysOps, unless he needs to quickly brush-up his skills. But if you're a "superuser", that's the book you should definitely read to know what's "inode" any why top&vmstat&iotop might be much more powerful than you've thought.

My score 4/5

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