The Linux Reading List HOWTO

Eric Steven Raymond

Thyrsus Enterprises

<esr@thyrsus.com>

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Revision History
Revision 3.0 2004–02–04 Revised by: esr
Major update. Removed out-of-date books, added a new one.
Revision 2.1 2003–10–28 Revised by: esr
Added TAOUP.
Revision 2.0 2003–07–31 Revised by: esr
Major revision, cleaned out obsolete stuff.
Revision 1.21 2003–02–22 Revised by: esr
LDP site has moved.
Revision 1.20 2001–06–14 Revised by: esr
Removed "Practical Unix Security"; it's five years old and the material is now covered better by other books.
Revision 1.19 2001–06–14 Revised by: esr

This document lists the books I think are most valuable to a person trying to learn Unix (especially Linux) top to bottom.

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1. Introduction

1.1. Purpose of this document

This document lists what I consider to be the essential book-length references for learning Unix (especially Linux) and how to program under it.

1.2. New versions of this document

New versions of the Linux Reading List HOWTO will be periodically posted to comp.os.linux.answers. They will also be uploaded to various Linux WWW and FTP sites, including the LDP home page.

You can also view the latest version of this on the World Wide Web via the URL http://sunsite.unc.edu/LDP/HOWTO/Reading−List−HOWTO.html.

1.3. Feedback and Corrections

If you have questions or comments about this document (or just want to suggest a book that you think should be on it), please feel free to mail Eric S. Raymond, at <esr@thyrsus.com>. I welcome any suggestions or criticisms.

1.4. Related Resources

For on-line HOWTOs, magazines, and other non-book material, see the Linux Documentation Project home page.

Some years ago I wrote a less Linux-focused Unix bibliography that may still be of some interest and retains a certain amusement value. You can find the Loginataka here.

SAGE, the System Administrator's Guild, maintains an excellent list of relevant books.

1.5. Conventions Used In This Document

Comments not in quotes below are either mine, or I have seen no reason to change them from those of Jim Haynes (previous maintainer of this document). Comments sent in by others are in quotes, and have the name of the commentator before them (JH is Jim Haynes).

"See" URLs attached to publishing information point directly into the publisher's web catalog and typically take you to a page containing a cover shot, blurbs, and ordering information. Books that don't have these lack them because the publisher is using frames and the catalog pages can't be bookmarked.

Topic listings go roughly from the outside in (culture to user-land programming to kernel programming to hardware). Within sections I have tried to list the most useful books first insofar as I am familiar with them. It's just an embarrassing coincidence that this lists one of my books first, honest! (Suggestions for a better organization cheerfully accepted.)
Basic Linux and Unix bibliography

Books on Culture, History, and Pragmatics


Um, er. A guide to Internet culture. Lots of people like it. HTML at the Jargon File Resource Page.

Order here.


Linux is part of the Unix tradition. This book is an oral history of Unix — how it originated, how it evolved, how it spread — by the people who were there.

Order here.


The one book on software engineering everyone should read.

Alan Cox: "This I'd recommend not for its technical value but for its application of common sense and reality to computing projects." JH: "Ah, yes. What if Linus had been given 200 programmers and had been told to produce Linux in 3 months!"

Order here.


How and why the Linux development model works. HTML here.

Order here.

Linux basics


Available on the LDP home page, or directly at http://www.tldp.org//sag/.

An excellent first book on how to maintain and administer a Linux system.
The Linux Reading List HOWTO


According to O'Reilly, "The Desktop Reference for Linux". For Linux users this obsoletes their "Unix In a Nutshell" which was SVr4/Solaris–oriented.

Order here.


Everything you need in order to understand, install, and use the Linux operating system. Excellent beginner's book.

Order here.


Just what the title says — practical tutorials in basic Unix, shells, editors, mail programs, networking, Web tools, and utilities. Covers some system administration fundamentals.


More in-depth coverage of normal system–administration tasks. Not Linux–specific but contains Linux material.

Order here.

**System Security**


The best book I've ever seen on technological security measures and general computer security. The section on "How to Steal a Painting" and physical alarm systems is worth the price of admission by itself.


This is excellent work, the standard by which future Linux security books will be judged. I wrote a foreword for it. Combines step–by–step practical instructions on hardening a Linux system with good theory on attack paths, rings of protection, and security analysis. Describes many counters for specific exploits.
Books on Shell, Script, and Web Programming


Shell (as a programming language for more than trivial scripting) is dead. Perl rules in its place (though it is now being strongly challenged by Python). This is the third edition of the definitive Perl book.

Order here.

Emmanuel Pierre keeps a short list of Perl books.


The next step beyond Perl. Python is beautifully designed, has better integration with C, and scales up more gracefully to large projects.

Order here.


The best HTML tutorial/reference I have ever seen, and the only HTML book you need unless you also want to do CGI. I don't know of any other book on HTML that comes within miles of this one for comprehensiveness, depth, and quality of organization.

Order here.


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**Tex and LaTex**


`If you are one of those users who would like to know how LaTeX can be extended to create the nicest documents possible without becoming a (La)TeX guru, then this book is for you' —— from the Preface. Bruce Thompson adds: "A very nice book providing a lot of information about the new extensions to LaTeX, provides a large number of examples showing precisely how your document's layout can be manipulated"

Bruce Thompson: "The ultimate reference on LaTeX 2.09 by its author. A new edition covering LaTeX2e (the version included in the current TeX/LaTeX distribution) is in preparation. LaTeX 2.09 is fully supported by LaTeX2e. A must for anyone wanting to use LaTeX. Provides a gentle introduction to document preparation and the various tools that LaTeX provides for producing professional quality documents. Lots of examples."

Order here.


Bruce Thompson: "The definitive user's guide and complete reference manual for TeX. Probably not needed for casual LaTeX use, but a fascinating book nonetheless." I'll strengthen that by adding that this book is not for the faint of heart.

Order here.


Bruce Thompson: "The definitive user's guide and reference manual for METAFONT, the companion program to TeX for designing fonts. An excellent work if you're planning to design your own fonts for use in TeX and LaTeX. METAFONT is included with the normal TeX/LaTeX distribution." This book is definitely not for the faint of heart.

Order here.

Good Programming Style


An excellent treatise on writing high–quality programs, surely destined to become a classic of the field.

Order here.


These are selected essays from Bentley's column in the Communications of the ACM. He discusses a wide variety of issues in program improvement, often focusing on program efficiency.

The book on how to think like a Unix expert. Browseable HTML and ordering info live [here](#).


A good book on an often–neglected skill. Order [here](#).


This book presents Bentley's methodology and set of rules for improving program efficiency, and includes a large number of examples.

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**C and C++**


The improved second edition, covering ANSI C, of the original classic C book coauthored by C's designer, "K&R". Still the best!


The best introductory book on C++ I have seen. Now available on the [Web](#).

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**C System Call Interface**


Linux hews very close to the letter of the POSIX standard (non–conformance is considered a bug and swiftly fixed). This excellent reference for POSIX is thus also an excellent reference for the Linux kernel API.

Order [here](#).


A book on general Unix programming that is every bit as good as Stevens's classic on network programming.

The best single reference to the Linux API. Covers the features that aren't generic Unix or Posix.

Books on Networking


Everything you might want to know about the subject. Generally regarded as definitive on the basics.


Ditto...


Available on the LDP home page, or directly at http://www.tldp.org/nag.html.

An excellent first book on how to maintain and administer a networked Linux system.


Less Linux–specific than the Kirch book. Features deeper coverage of the TCP/IP core, including routing and BGP.

Order here.


In–depth coverage of DNS, useful for people running complicated multiple–subnet installations. Covers BIND library programming.

Order here.


An exhaustive (and exhausting) guide to Linux's and Unix's default mail–transfer agent.

Order here.
Ancestors of Linux


The book that got Linus started.

[Order here.]


Alan Cox likes this book. Tanenbaum designed Minix, which is the system Linus bootstrapped Linux up from.

[Order here.]

The Linux kernel


(Translated from the French language edition of "Programmation Linux 2.0"; same authors; 1997; Éditions Eyrolles; Paris, France.)

A very interesting and informative examination of the operation of the kernel that fills in the gap between the POSIX interface and "The Design of the Unix Operating System" and the Linux source code. A good understanding of the design and operation of a Unix OS is a pre−requisite, but this book is an excellent help to going beyond that general understanding into actual work.

The primary author is one of the core developers for the ext2 filesystem, and the Linux Kernel book shows a firm grasp of the matter and clear explanations and structure. It's surprisingly readable for something working at such a low level. The book does seem to have suffered a little in the translation to English — there are a few typos and grammatical mistakes, but it's quite readable. (The code example files are charmingly still named in French.)

The book is current to Linux 2.0.35 and foreshadows 2.1 and 2.2. Network protocol implementations are not covered.


A guide to Linux kernel programming; covers 2.4. Covers the architecture of the Linux core and network layer as well as driver construction.
Relatives of Linux


The successor to a classic book on the implementation of the 4.3 BSD kernel, which influenced Linux's design (especially near sockets and networking). This book covers the 4.4BSD base of BSD/OS, FreeBSD, and NetBSD.

Order here.

Books on Intel and PC hacking


This explains the 386 features for operating system writers. It includes a chapter on Unix implementation. A lot of the 80386 architecture seems to have been designed with Multics in mind; the features are not used by DOS or by Unix.


This is the book the Jolitzes used when they ported BSD to the 386 architecture.


Pin connections, timing, waveforms, block diagrams, voltages, all that kind of stuff.


JH: "Covers the more recent stuff like EIDE and PCI."

Order here.
A. Administrivia
A.1. Terms of Use

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- Clearly mark any condensed, altered or versions as such.

These restrictions are intended to protect potential readers from stale or mangled versions. If you think you have a good case for an exception, ask me.
A.2. History

This was originally a mini–HOWTO maintained by Jim Haynes. I have changed the emphasis somewhat, trying to make it more a standalone document and less reliant on the various USENET bibliographic postings. The unattributed mini–reviews are mine rather than his.