

Essential Linux Device Drivers Pearson Open Source Software Development Series

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Red Hat Linux 9 Unleashed - Bill Ball 2003

Learn Python 3 the Hard Way - Zed A. Shaw 2017-06-26

You Will Learn Python 3! Zed Shaw has perfected the world's best system for learning Python 3. Follow it and you will succeed—just like the millions

of beginners Zed has taught to date! You bring the discipline, commitment, and persistence; the author supplies everything else. In *Learn Python 3 the Hard Way*, you'll learn Python by working through 52 brilliantly crafted exercises. Read them. Type their code precisely. (No copying and pasting!) Fix your mistakes. Watch the programs run. As you do, you'll learn how a computer works; what good programs look like; and how to read, write, and think about code. Zed then teaches you even more in 5+ hours of video where he shows you how to break, fix, and debug your code—live, as he's doing the exercises. Install a complete Python environment Organize and write code Fix and break code Basic mathematics Variables Strings and text Interact with users Work with files Looping and logic Data structures using lists and dictionaries Program design Object-oriented programming Inheritance and composition Modules, classes, and objects Python packaging Automated

testing Basic game development Basic web development It'll be hard at first. But soon, you'll just get it—and that will feel great! This course will reward you for every minute you put into it. Soon, you'll know one of the world's most powerful, popular programming languages. You'll be a Python programmer. This Book Is Perfect For Total beginners with zero programming experience Junior developers who know one or two languages Returning professionals who haven't written code in years Seasoned professionals looking for a fast, simple, crash course in Python 3
Management Information Systems - Kenneth C. Laudon 2004
Management Information Systems provides comprehensive and integrative coverage of essential new technologies, information system applications, and their impact on business models and managerial decision-making in an exciting and interactive manner. The twelfth edition

focuses on the major changes that have been made in information technology over the past two years, and includes new opening, closing, and Interactive Session cases.

A Practical Guide to Ubuntu Linux - Mark G. Sobell 2011
The Most Complete, Easy-to-Follow Guide to Ubuntu Linux
The #1 Ubuntu server resource, fully updated for Ubuntu 10.4 (Lucid Lynx)-the Long Term Support (LTS) release many companies will rely on for years! Updated JumpStarts help you set up Samba, Apache, Mail, FTP, NIS, OpenSSH, DNS, and other complex servers in minutes
Hundreds of up-to-date examples, plus comprehensive indexes that deliver instant access to answers you can trust
Mark Sobell's A Practical Guide to Ubuntu Linux®, Third Edition, is the most thorough and up-to-date reference to installing, configuring, and working with Ubuntu, and also offers comprehensive coverage of servers--critical for anybody interested in unleashing the full power of Ubuntu. This

edition has been fully updated for Ubuntu 10.04 (Lucid Lynx), a milestone Long Term Support (LTS) release, which Canonical will support on desktops until 2013 and on servers until 2015. Sobell walks you through every essential feature and technique, from installing Ubuntu to working with GNOME, Samba, exim4, Apache, DNS, NIS, LDAP, g ufw, firestarter, iptables, even Perl scripting. His exceptionally clear explanations demystify everything from networking to security. You'll find full chapters on running Ubuntu from the command line and desktop (GUI), administrating systems, setting up networks and Internet servers, and much more. Fully updated JumpStart sections help you get complex servers running--often in as little as five minutes. Sobell draws on his immense Linux knowledge to explain both the "hows" and the "whys" of Ubuntu. He's taught hundreds of thousands of readers and never forgets what it's like to be new to Linux. Whether

you're a user, administrator, or programmer, you'll find everything you need here--now, and for many years to come.

The world's most practical Ubuntu Linux book is now even more useful! This book delivers Hundreds of easy-to-use Ubuntu examples Important networking coverage, including DNS, NFS, and Cacti Coverage of crucial Ubuntu topics such as sudo and the Upstart init daemon More detailed, usable coverage of Internet server configuration, including Apache (Web) and exim4 (email) servers State-of-the-art security techniques, including up-to-date firewall setup techniques using gufw and iptables, and a full chapter on OpenSSH A complete introduction to Perl scripting for automated administration Deeper coverage of essential admin tasks--from managing users to CUPS printing, configuring LANs to building a kernel Complete instructions on keeping Ubuntu systems up-to-date using aptitude, Synaptic, and the Software Sources window And much

more...including a 500+ term glossary Includes DVD! Get the full version of Lucid Lynx, the latest Ubuntu LTS release!

The Linux Development Platform - Rafeeq Ur Rehman 2003

Two leading Linux developers show how to choose the best tools for your specific needs and integrate them into a complete development environment that maximizes your effectiveness in any project, no matter how large or complex. Includes research, requirements, coding, debugging, deployment, maintenance and beyond, choosing and implementing editors, compilers, assemblers, debuggers, version control systems, utilities, using Linux Standard Base to deliver applications that run reliably on a wide range of Linux systems, comparing Java development options for Linux platforms, using Linux in cross-platform and embedded development environments.

Windows 2000 TCP/IP - Karanjit S. Siyan 2000

This informative and complex

reference book is written by Dr. Karanjit Siyan, successful author and creator of some of the original TCP/IP applications. The tutorial/reference hybrid offers a complete, focused solution to Windows internetworking concepts and solutions and meets the needs of the serious system administrator by cutting through the complexities of TCP/IP advances.

SUSE Linux 10 Unleashed - Michael McCallister 2006
Provides information on the installation, use, and administration of Suse Linux 10.

Operating Systems - Andrew S. Tanenbaum 1997

This is a practical manual on operating systems, which describes a small UNIX-like operating system, demonstrating how it works and illustrating the principles underlying it. The relevant sections of the MINIX source code are described in detail, and the book has been revised to include updates in MINIX, which initially started as a v7

unix clone for a floppy-disk only 8088. It is now aimed at 386, 486 and pentium machines, and is based on the international posix standard instead of on v7. Versions of MINIX are now also available for the Macintosh and SPARC.

Easy Linux Device Driver, Second Edition - Mahesh Sambhaji Jadhav 2014-03-13
Easy Linux Device Driver : First Step Towards Device Driver Programming
Easy Linux Device Driver book is an easy and friendly way of learning device driver programming . Book contains all latest programs along with output screen screenshots. Highlighting important sections and stepwise approach helps for quick understanding of programming . Book contains Linux installation ,Hello world program up to USB 3.0 ,Display Driver ,PCI device driver programming concepts in stepwise approach. Program gives best understanding of theoretical and practical fundamentals of Linux device driver. Beginners should start learning Linux

device driver from this book to become device driver expertise. Topics covered: Introduction of Linux Advantages of Linux History of Linux Architecture of Linux Definations Ubuntu installation Ubuntu Installation Steps User Interface Difference About KNOPPIX Important links Terminal: Soul of Linux Creating Root account Terminal Commands Virtual Editor Commands Linux Kernel Linux Kernel Internals Kernel Space and User space Device Driver Place of Driver in System Device Driver working Characteristics of Device Driver Module Commands Hello World Program pre-settings Write Program Printk function Makefile Run program Parameter passing Parameter passing program Parameter Array Process related program Process related program Character Device Driver Major and Minor number API to registers a device Program to show device number Character Driver File Operations File operation program. Include .h header Functions in module.h

file Important code snippets Summary of file operations PCI Device Driver Direct Memory Access Module Device Table Code for Basic Device Driver Important code snippets USB Device Driver Fundamentals Architecture of USB device driver USB Device Driver program Structure of USB Device Driver Parts of USB end points Important features USB information Driver USB device Driver File Operations Using URB Simple data transfer Program to read and write Important code snippets Gadget Driver Complete USB Device Driver Program Skeleton Driver Program Special USB 3.0 USB 3.0 Port connection Bulk endpoint streaming Stream ID Device Driver Lock Mutual Exclusion Semaphore Spin Lock Display Device Driver Frame buffer concept Framebuffer Data Structure Check and set Parameter Accelerated Method Display Driver summary Memory Allocation Kmalloc Vmalloc Ioremap Interrupt Handling interrupt registration Proc interface Path of interrupt

Programming Tips Softirqs,
Tasklets, Work Queues I/O
Control Introducing ioctl
Prototype Stepwise execution
of ioctl Sample Device Driver
Complete memory Driver
Complete Parallel Port Driver
Device Driver Debugging Data
Display Debugger Graphical
Display Debugger Kernel
Graphical Debugger Appendix I
Exported Symbols Kobjects,
Ksets, and Subsystems DMA
I/O

Embedded Software

Development with ECos -

Anthony J. Massa 2002
How to build low-cost, royalty-free embedded solutions with eCos, covers eCos architecture, installation, configuration, coding, debugging, bootstrapping, porting, and more, includes open source tools on CD-ROM for a complete embedded software development environment with eCos as the core.

Inside Linux - Michael Tobler
2001

With in-depth complete coverage on the installation process, editing and typesetting, graphical user

interfaces, programming, system administration, and managing Internet sites, this is the only book users new to Linux will need. The book guides users to a high-level of proficiency with all the flavors of Linux, and helps them with crucial system administration chores.

Linux Patch Management -

Michael H. Jang 2006

Provides information and guidance on managing Linux patches and updates.

Upgrading and Repairing

Servers - Scott Mueller

2006-04-24

As the price of servers comes down to the level of desktop PCs, many small- and medium-sized businesses are forced to provide their own server setup, maintenance and support, without the high-dollar training enjoyed by their big corporation counterparts. Upgrading and Repairing Servers is the first line of defense for small- and medium-sized businesses, and an excellent go-to reference for the experienced administrators who have been asking for a

reference guide like this one for a long time! It's all here in one, incredibly useful tome that you will refer to again and again. Inside is in-depth coverage of server design and implementation, building and deploying, server hardware components, network and backup operations, SAN, fault tolerance, server racks, server rooms, server operating systems, as well as SUN Microsystems servers. No other computer hardware book has ever dared tackle this enormous topic - until now!

Ubuntu Unleashed 2019 Edition - Matthew Helmke
2018-06-15

Covers 18.04, 18.10, 19.04, and 19.10 Ubuntu Unleashed 2019 Edition is filled with unique and advanced information for everyone who wants to make the most of the Ubuntu Linux operating system. This new edition has been thoroughly updated, including two new chapters, by a long-time Ubuntu community leader to reflect the exciting new Ubuntu 18.04 LTS release, with forthcoming online

updates for 18.10, 19.04, and 19.10 when they are released. Linux writer Matthew Helmke covers all you need to know about Ubuntu 18.04 LTS installation, configuration, productivity, multimedia, development, system administration, server operations, networking, virtualization, security, DevOps, and more—including intermediate-to-advanced techniques you won't find in any other book. Helmke presents up-to-the-minute introductions to Ubuntu's key productivity and web development tools, programming languages, hardware support, and more. You'll find new or improved coverage of the Ubuntu desktop experience, common web servers and software stacks, containers like Docker and Kubernetes, as well as a wealth of systems administration information that is stable and valuable over many years. Configure and use the Ubuntu desktop Get started with multimedia and productivity applications,

including LibreOffice Manage Linux services, users, and software packages Administer and run Ubuntu from the command line Automate tasks and use shell scripting Provide secure remote access and configure a secure VPN Manage kernels and modules Administer file, print, email, proxy, LDAP, DNS, and HTTP servers (Apache, Nginx, or alternatives) Learn about new options for managing large numbers of servers Work with databases (both SQL and the newest NoSQL alternatives) Get started with virtualization and cloud deployment, including information about containers Learn the basics about popular programming languages including Python, PHP, Perl, and gain an introduction to new alternatives such as Go and Rust

Essential Linux Device

Drivers - Sreekrishnan Venkateswaran 2008-03-27 "Probably the most wide ranging and complete Linux device driver book I've read." -- Alan Cox, Linux Guru and Key

Kernel Developer "Very comprehensive and detailed, covering almost every single Linux device driver type." -- Theodore Ts'o, First Linux Kernel Developer in North America and Chief Platform Strategist of the Linux Foundation The Most Practical Guide to Writing Linux Device Drivers Linux now offers an exceptionally robust environment for driver development: with today's kernels, what once required years of development time can be accomplished in days. In this practical, example-driven book, one of the world's most experienced Linux driver developers systematically demonstrates how to develop reliable Linux drivers for virtually any device. Essential Linux Device Drivers is for any programmer with a working knowledge of operating systems and C, including programmers who have never written drivers before. Sreekrishnan Venkateswaran focuses on the essentials, bringing together all the concepts and techniques you

need, while avoiding topics that only matter in highly specialized situations. Venkateswaran begins by reviewing the Linux 2.6 kernel capabilities that are most relevant to driver developers. He introduces simple device classes; then turns to serial buses such as I2C and SPI; external buses such as PCMCIA, PCI, and USB; video, audio, block, network, and wireless device drivers; user-space drivers; and drivers for embedded Linux—one of today's fastest growing areas of Linux development. For each, Venkateswaran explains the technology, inspects relevant kernel source files, and walks through developing a complete example. • Addresses drivers discussed in no other book, including drivers for I2C, video, sound, PCMCIA, and different types of flash memory • Demystifies essential kernel services and facilities, including kernel threads and helper interfaces • Teaches polling, asynchronous notification, and I/O control • Introduces the Inter-Integrated

Circuit Protocol for embedded Linux drivers • Covers multimedia device drivers using the Linux-Video subsystem and Linux-Audio framework • Shows how Linux implements support for wireless technologies such as Bluetooth, Infrared, WiFi, and cellular networking • Describes the entire driver development lifecycle, through debugging and maintenance • Includes reference appendixes covering Linux assembly, BIOS calls, and Seq files

The British National Bibliography - Arthur James Wells 2002

Operating Systems - William Stallings 2009

For a one-semester undergraduate course in operating systems for computer science, computer engineering, and electrical engineering majors. Winner of the 2009 Textbook Excellence Award from the Text and Academic Authors Association (TAA)! *Operating Systems: Internals and Design Principles* is a comprehensive and unified

introduction to operating systems. By using several innovative tools, Stallings makes it possible to understand critical core concepts that can be fundamentally challenging. The new edition includes the implementation of web based animations to aid visual learners. At key points in the book, students are directed to view an animation and then are provided with assignments to alter the animation input and analyze the results. The concepts are then enhanced and supported by end-of-chapter case studies of UNIX, Linux and Windows Vista. These provide students with a solid understanding of the key mechanisms of modern operating systems and the types of design tradeoffs and decisions involved in OS design. Because they are embedded into the text as end of chapter material, students are able to apply them right at the point of discussion. This approach is equally useful as a basic reference and as an up-to-date survey of the state of the art.

Linux and Windows Interoperability Guide - Ed Bradford 2002

Up-to-the-minute coverage includes Windows 2000 and Windows XP. Includes practical Linux/Windows network design and implementation solutions. Covers a wide range of interoperability issues including Internet/intranet, TCP/IP, dial-up access, software, backup/restore, security, and file/print.

Vishvakarma 2015 - Yash Mehta 2016-04-13

It is annual college magazine of BVM Engineering College
[Debugging Linux Systems \(Digital Short Cut\)](#) - Sreekrishnan Venkateswaran 2009-11-03

Debugging Linux Systems discusses the main tools available today to debug 2.6 Linux Kernels. We start by exploring the seemingly esoteric operations of the Kernel Debugger (KDB), Kernel GNU DeBugger (KGDB), the plain GNU DeBugger (GDB), and JTAG debuggers. We then investigate Kernel Probes, a feature that lets you intrude

into a kernel function and extract debug information or apply a medicated patch. Analyzing a crash dump can yield clues for postmortem analysis of kernel crashes or hangs, so we take a look at Kdump, a serviceability tool that collects a system dump after spawning a new kernel. Profiling points you to code regions that burn more CPU cycles, so we learn to use the OProfile kernel profiler and the gprof application profiler to sense the presence of code bottlenecks. Because tracing provides insight into behavioral problems that manifest during interactions between different code modules, we delve into the Linux Trace Toolkit, a system designed for high-volume trace capture. The section “Debugging Embedded Linux” takes a tour of the I/O interfaces commonly found on embedded hardware, such as flash memory, serial port, PCMCIA, Secure Digital media, USB, RTC, audio, video, touch screen, and Bluetooth, and provides pointers to debug the associated device drivers. We

also pick up some board-level debugging skills with the help of a case study. The section “Debugging Network Throughput” takes you through some device driver design issues and protocol implementation characteristics that can affect the horsepower of your network interface card. We end the shortcut by examining several options available in the kernel configuration menu that can emit valuable debug information.

[LINUX Assembly Language Programming](#) - Bob Neveln
2000

Master x86 language from the Linux point of view with this one-concept-at-a-time guide. Neveln gives an "under the hood" perspective of how Linux works and shows how to create device drivers. The CD-ROM includes all source code from the book plus edlinas, an x86 simulator that's perfect for hands-on, interactive assembler development.

**Linux Kernel Programming
Part 2 - Char Device Drivers
and Kernel Synchronization**

- Kaiwan N Billimoria
2021-03-19

Discover how to write high-quality character driver code, interface with userspace, work with chip memory, and gain an in-depth understanding of working with hardware interrupts and kernel synchronization

Key Features

- Delve into hardware interrupt handling, threaded IRQs, tasklets, softirqs, and understand which to use when
- Explore powerful techniques to perform user-kernel interfacing, peripheral I/O and use kernel mechanisms
- Work with key kernel synchronization primitives to solve kernel concurrency issues

Book Description

Linux Kernel Programming Part 2 - Character Device Drivers and Kernel Synchronization is an ideal companion guide to the Linux Kernel Programming book. This book provides a comprehensive introduction for those new to Linux device driver development and will have you up and running with writing misc class character

device driver code (on the 5.4 LTS Linux kernel) in next to no time. You'll begin by learning how to write a simple and complete misc class character driver before interfacing your driver with user-mode processes via procsfs, sysfs, debugfs, netlink sockets, and ioctl. You'll then find out how to work with hardware I/O memory. The book covers working with hardware interrupts in depth and helps you understand interrupt request (IRQ) allocation, threaded IRQ handlers, tasklets, and softirqs. You'll also explore the practical usage of useful kernel mechanisms, setting up delays, timers, kernel threads, and workqueues. Finally, you'll discover how to deal with the complexity of kernel synchronization with locking technologies (mutexes, spinlocks, and atomic/refcount operators), including more advanced topics such as cache effects, a primer on lock-free techniques, deadlock avoidance (with lockdep), and kernel lock debugging techniques. By the

end of this Linux kernel book, you'll have learned the fundamentals of writing Linux character device driver code for real-world projects and products. What you will learnGet to grips with the basics of the modern Linux Device Model (LDM)Write a simple yet complete misc class character device driverPerform user-kernel interfacing using popular methodsUnderstand and handle hardware interrupts confidentlyPerform I/O on peripheral hardware chip memoryExplore kernel APIs to work with delays, timers, kthreads, and workqueuesUnderstand kernel concurrency issuesWork with key kernel synchronization primitives and discover how to detect and avoid deadlockWho this book is for An understanding of the topics covered in the Linux Kernel Programming book is highly recommended to make the most of this book. This book is for Linux programmers beginning to find their way with device driver development. Linux device

driver developers looking to overcome frequent and common kernel/driver development issues, as well as perform common driver tasks such as user-kernel interfaces, performing peripheral I/O, handling hardware interrupts, and dealing with concurrency will benefit from this book. A basic understanding of Linux kernel internals (and common APIs), kernel module development, and C programming is required.

Linux Kernel Development -
Love Robert 2018

The Definitive Guide to the Xen Hypervisor - David Chisnall 2008

"The Xen hypervisor has become an incredibly strategic resource for the industry, as the focal point of innovation in cross-platform virtualization technology. David's book will play a key role in helping the Xen community and ecosystem to grow." - Simon Crosby, CTO, XenSource An Under-the-Hood Guide to the Power of Xen Hypervisor Internals The Definitive Guide to the Xen

Hypervisor is a comprehensive handbook on the inner workings of XenSource's powerful open source paravirtualization solution. From architecture to kernel internals, author David Chisnall exposes key code components and shows you how the technology works, providing the essential information you need to fully harness and exploit the Xen hypervisor to develop cost-effective, highperformance Linux and Windows virtual environments. Granted exclusive access to the XenSource team, Chisnall lays down a solid framework with overviews of virtualization and the design philosophy behind the Xen hypervisor. Next, Chisnall takes you on an in-depth exploration of the hypervisor's architecture, interfaces, device support, management tools, and internals—including key information for developers who want to optimize applications for virtual environments. He reveals the power and pitfalls of Xen in real-world examples

and includes hands-on exercises, so you gain valuable experience as you learn. This insightful resource gives you a detailed picture of how all the pieces of the Xen hypervisor fit and work together, setting you on the path to building and implementing a streamlined, cost-efficient virtual enterprise. Coverage includes

- Understanding the Xen virtual architecture
- Using shared info pages, grant tables, and the memory management subsystem
- Interpreting Xen's abstract device interfaces
- Configuring and managing device support, including event channels, monitoring with XenStore, supporting core devices, and adding new device types
- Navigating the inner workings of the Xen API and userspace tools
- Coordinating virtual machines with the Scheduler Interface and API, and adding a new scheduler
- Securing near-native speed on guest machines using HVM
- Planning for future needs, including porting, power management, new devices, and unusual architectures

The Essential Guide to Computing - E. Garrison Walters 2001

An overview of the industry covers the history of computing technology, state of the art hardware, software development, and network communications infrastructures, protocols, and applications.

UNIX and Linux System Administration Handbook - Evi Nemeth 2017-09-14

“As an author, editor, and publisher, I never paid much attention to the competition—except in a few cases. This is one of those cases. The UNIX System Administration Handbook is one of the few books we ever measured ourselves against.” —Tim O’Reilly, founder of O’Reilly Media “This edition is for those whose systems live in the cloud or in virtualized data centers; those whose administrative work largely takes the form of automation and configuration source code; those who collaborate closely with developers, network engineers, compliance officers, and all the other worker bees

who inhabit the modern hive.” —Paul Vixie, Internet Hall of Fame-recognized innovator and founder of ISC and Farsight Security “This book is fun and functional as a desktop reference. If you use UNIX and Linux systems, you need this book in your short-reach library. It covers a bit of the systems’ history but doesn’t bloviate. It’s just straight-forward information delivered in a colorful and memorable fashion.” —Jason A. Nunnelley UNIX® and Linux® System Administration Handbook, Fifth Edition, is today’s definitive guide to installing, configuring, and maintaining any UNIX or Linux system, including systems that supply core Internet and cloud infrastructure. Updated for new distributions and cloud environments, this comprehensive guide covers best practices for every facet of system administration, including storage management, network design and administration, security, web hosting, automation, configuration management,

performance analysis, virtualization, DNS, security, and the management of IT service organizations. The authors—world-class, hands-on technologists—offer indispensable new coverage of cloud platforms, the DevOps philosophy, continuous deployment, containerization, monitoring, and many other essential topics. Whatever your role in running systems and networks built on UNIX or Linux, this conversational, well-written guide will improve your efficiency and help solve your knottiest problems.

Building Embedded Linux Systems - Karim Yaghmour
2003-04-22

Linux® is being adopted by an increasing number of embedded systems developers, who have been won over by its sophisticated scheduling and networking, its cost-free license, its open development model, and the support offered by rich and powerful programming tools. While there is a great deal of hype surrounding the use of Linux in embedded systems, there is not

a lot of practical information. Building Embedded Linux Systems is the first in-depth, hard-core guide to putting together an embedded system based on the Linux kernel. This indispensable book features arcane and previously undocumented procedures for: Building your own GNU development toolchain Using an efficient embedded development framework Selecting, configuring, building, and installing a target-specific kernel Creating a complete target root filesystem Setting up, manipulating, and using solid-state storage devices Installing and configuring a bootloader for the target Cross-compiling a slew of utilities and packages Debugging your embedded system using a plethora of tools and techniques Details are provided for various target architectures and hardware configurations, including a thorough review of Linux's support for embedded hardware. All explanations rely on the use of open source and free software packages. By

presenting how to build the operating system components from pristine sources and how to find more documentation or help, this book greatly simplifies the task of keeping complete control over one's embedded operating system, whether it be for technical or sound financial reasons. Author Karim Yaghmour, a well-known designer and speaker who is responsible for the Linux Trace Toolkit, starts by discussing the strengths and weaknesses of Linux as an embedded operating system. Licensing issues are included, followed by a discussion of the basics of building embedded Linux systems. The configuration, setup, and use of over forty different open source and free software packages commonly used in embedded Linux systems are also covered. uClibc, BusyBox, U-Boot, OpenSSH, tthttpd, tftp, strace, and gdb are among the packages discussed.

Ubuntu Unleashed - Matthew Helmke 2013

"DVD includes the full Ubuntu 13.10 distribution for Intel x86

computers as well as the complete LibreOffice office suite and hundreds of additional programs and utilities"--Page 4 of cover.

Ubuntu Unleashed 2014 Edition - Matthew Helmke 2013-11-18

Ubuntu Unleashed 2014 Edition is filled with unique and advanced information for everyone who wants to make the most of the Linux-based Ubuntu operating system. This new edition has been thoroughly revised and updated by a long-time Ubuntu community leader to reflect the exciting new Ubuntu 13.10 and the forthcoming Ubuntu 14.04. Former Ubuntu Forum administrator Matthew Helmke covers all you need to know about Ubuntu 13.10/14.04 installation, configuration, productivity, multimedia, development, system administration, server operations, networking, virtualization, security, DevOps, and more—including intermediate-to-advanced techniques you won't find in any other book. Helmke

presents up-to-the-minute introductions to Ubuntu's key productivity and Web development tools, programming languages, hardware support, and more. You'll find new or improved coverage of Ubuntu's Unity interface, various types of servers, software repositories, database options, virtualization and cloud services, development tools, monitoring, troubleshooting, Ubuntu's push into mobile and other touch screen devices, and much more. Matthew Helmke served from 2006 to 2011 on the Ubuntu Forum Council, providing leadership and oversight of the Ubuntu Forums, and spent two years on the Ubuntu regional membership approval board for Europe, the Middle East, and Africa. He has written about Ubuntu for several magazines and websites and is the lead author of *The Official Ubuntu Book*. He works for Pearson Education writing technical documentation for educational testing software. Detailed information on how to...

Configure and customize the Unity desktop Get started with multimedia and productivity applications, including LibreOffice Manage Linux services, users, and software packages Administer and run Ubuntu from the command line Automate tasks and use shell scripting Provide secure remote access and configure a secure VPN Manage kernels and modules Administer file, print, email, proxy, LDAP, DNS, and HTTP servers (Apache, Nginx, or alternatives) Learn about new options for managing large numbers of servers Work with databases (both SQL and the newest NoSQL alternatives) Get started with virtualization Build a private cloud with Juju and Charms Learn the basics about popular programming languages including Python, PHP, Perl, and new alternatives such as Go and Rust Learn about Ubuntu's work toward usability on touch-screen and phone devices Ubuntu 13.10 on DVD DVD includes the full Ubuntu 13.10 distribution for Intel x86 computers as well as

the complete LibreOffice office suite and hundreds of additional programs and utilities. Free Kick Start Chapter! Purchase this book and receive a free Ubuntu 14.04 Kick Start chapter after Ubuntu 14.04 is released. See inside back cover for details [Exploring BeagleBone](#) - Derek Molloy 2014-12-05

In-depth instruction and practical techniques for building with the BeagleBone embedded Linux platform

[Exploring BeagleBone](#) is a hands-on guide to bringing gadgets, gizmos, and robots to life using the popular BeagleBone embedded Linux platform. Comprehensive content and deep detail provide more than just a BeagleBone instruction manual—you'll also learn the underlying engineering techniques that will allow you to create your own projects. The book begins with a foundational primer on essential skills, and then gradually moves into communication, control, and advanced applications using C/C++, allowing you to learn

at your own pace. In addition, the book's companion website features instructional videos, source code, discussion forums, and more, to ensure that you have everything you need. The BeagleBone's small size, high performance, low cost, and extreme adaptability have made it a favorite development platform, and the Linux software base allows for complex yet flexible functionality. The BeagleBone has applications in smart buildings, robot control, environmental sensing, to name a few; and, expansion boards and peripherals dramatically increase the possibilities. [Exploring BeagleBone](#) provides a reader-friendly guide to the device, including a crash course in computer engineering. While following step by step, you can:

Get up to speed on embedded Linux, electronics, and programming Master interfacing electronic circuits, buses and modules, with practical examples Explore the Internet-connected BeagleBone and the BeagleBone with a

display Apply the BeagleBone to sensing applications, including video and sound Explore the BeagleBone's Programmable Real-Time Controllers Hands-on learning helps ensure that your new skills stay with you, allowing you to design with electronics, modules, or peripherals even beyond the BeagleBone.

Insightful guidance and online peer support help you transition from beginner to expert as you master the techniques presented in Exploring BeagleBone, the practical handbook for the popular computing platform.

Advanced Linux

Programming - CodeSourcery LLC 2001-06-11

This is the eBook version of the printed book. If the print book includes a CD-ROM, this content is not included within the eBook version. Advanced Linux Programming is divided into two parts. The first covers generic UNIX system services, but with a particular eye towards Linux specific information. This portion of the book will be of use even to

advanced programmers who have worked with other Linux systems since it will cover Linux specific details and differences. For programmers without UNIX experience, it will be even more valuable. The second section covers material that is entirely Linux specific. These are truly advanced topics, and are the techniques that the gurus use to build great applications. While this book will focus mostly on the Application Programming Interface (API) provided by the Linux kernel and the C library, a preliminary introduction to the development tools available will allow all who purchase the book to make immediate use of Linux.

Linux Kernel Programming

Kaiwan N Billimoria
2021-03-19

Learn how to write high-quality kernel module code, solve common Linux kernel programming issues, and understand the fundamentals of Linux kernel internals Key FeaturesDiscover how to write kernel code using the Loadable Kernel Module

frameworkExplore industry-grade techniques to perform efficient memory allocation and data synchronization within the kernelUnderstand the essentials of key internals topics such as kernel architecture, memory management, CPU scheduling, and kernel synchronizationBook Description Linux Kernel Programming is a comprehensive introduction for those new to Linux kernel and module development. This easy-to-follow guide will have you up and running with writing kernel code in next-to-no time. This book uses the latest 5.4 Long-Term Support (LTS) Linux kernel, which will be maintained from November 2019 through to December 2025. By working with the 5.4 LTS kernel throughout the book, you can be confident that your knowledge will continue to be valid for years to come. You'll start the journey by learning how to build the kernel from the source. Next, you'll write your first kernel module using the powerful

Loadable Kernel Module (LKM) framework. The following chapters will cover key kernel internals topics including Linux kernel architecture, memory management, and CPU scheduling. During the course of this book, you'll delve into the fairly complex topic of concurrency within the kernel, understand the issues it can cause, and learn how they can be addressed with various locking technologies (mutexes, spinlocks, atomic, and refcount operators). You'll also benefit from more advanced material on cache effects, a primer on lock-free techniques within the kernel, deadlock avoidance (with lockdep), and kernel lock debugging techniques. By the end of this kernel book, you'll have a detailed understanding of the fundamentals of writing Linux kernel module code for real-world projects and products. What you will learnWrite high-quality modular kernel code (LKM framework) for 5.x kernelsConfigure and build a kernel from sourceExplore the Linux kernel architectureGet to

grips with key internals regarding memory management within the kernel Understand and work with various dynamic kernel memory alloc/dealloc APIs Discover key internals aspects regarding CPU scheduling within the kernel Gain an understanding of kernel concurrency issues Find out how to work with key kernel synchronization primitives Who this book is for This book is for Linux programmers beginning to find their way with Linux kernel development. If you're a Linux kernel and driver developer looking to overcome frequent and common kernel development issues, or understand kernel intervals, you'll find plenty of useful information. You'll need a solid foundation of Linux CLI and C programming before you can jump in.

LPI Linux Essentials Study Guide - Christine Bresnahan
2020-01-29

Provides a solid foundation for those considering a career in IT—covers the objectives of the

new Linux Essentials Exam 010-160 v1.6 Linux is a secure, reliable, open source alternative to costly operating systems such as Microsoft Windows. As large organizations worldwide continue to add Linux servers, the need for IT professionals skilled in Linux continues to grow. The LPI Linux Essentials Study Guide is a valuable resource for anyone preparing to take the new Linux Essentials Exam—the entry-level certification from The Linux Professional Institute (LPI) which validates knowledge of Linux concepts and applications. Written by recognized experts on Linux and open source technologies, this accessible, user-friendly guide covers desktop skills, the command line, directories and files, networks, scripting, security, users and permissions, and much more. Clear, concise chapters provide numerous hands-on tutorials, real-world examples, color illustrations, and practical end-of-chapter exercises and review questions. An ideal

introduction for those new to Linux or considering a career in IT, this guide helps readers: Learn the operation and components of Linux desktops and servers Understand open source software, licensing, and applications Configure networks, security, cloud services, storage, and devices Create users and groups and set permissions and ownership Use the command line and build automation scripts LPI Linux Essentials Study Guide: Exam 010 v1.6 is perfect for anyone beginning a career in IT, newcomers to Linux, students in computer courses, and system administrators working with other operating systems wanting to learn more about Linux and other open source solutions.

Linux Administration

Handbook - Evi Nemeth

2006-10-30

“As this book shows, Linux systems are just as functional, secure, and reliable as their proprietary counterparts. Thanks to the ongoing efforts of thousands of Linux developers, Linux is more

ready than ever for deployment at the frontlines of the real world. The authors of this book know that terrain well, and I am happy to leave you in their most capable hands.” -Linus Torvalds “The most successful sysadmin book of all time—because it works!” -Rik Farrow, editor of ;login: “This book clearly explains current technology with the perspective of decades of experience in large-scale system administration. Unique and highly recommended.” -Jonathan Corbet, cofounder, LWN.net “Nemeth et al. is the overall winner for Linux administration: it’s intelligent, full of insights, and looks at the implementation of concepts.” -Peter Salus, editorial director, Matrix.net Since 2001, Linux Administration Handbook has been the definitive resource for every Linux® system administrator who must efficiently solve technical problems and maximize the reliability and performance of a production environment. Now, the authors have systematically updated this classic guide to

address today's most important Linux distributions and most powerful new administrative tools. The authors spell out detailed best practices for every facet of system administration, including storage management, network design and administration, web hosting, software configuration management, performance analysis, Windows interoperability, and much more. Sysadmins will especially appreciate the thorough and up-to-date discussions of such difficult topics such as DNS, LDAP, security, and the management of IT service organizations. *Linux® Administration Handbook, Second Edition*, reflects the current versions of these leading distributions: Red Hat® Enterprise Linux®, Fedora™ Core SUSE® Linux Enterprise Debian® GNU/Linux Ubuntu® Linux. Sharing their war stories and hard-won insights, the authors capture the behavior of Linux systems in the real world, not just in ideal environments. They explain complex tasks in

detail and illustrate these tasks with examples drawn from their extensive hands-on experience.

The Linux Programmer's Toolbox - John Fusco
2007-03-06

Master the Linux Tools That Will Make You a More Productive, Effective Programmer The Linux Programmer's Toolbox helps you tap into the vast collection of open source tools available for GNU/Linux. Author John Fusco systematically describes the most useful tools available on most GNU/Linux distributions using concise examples that you can easily modify to meet your needs. You'll start by learning the basics of downloading, building, and installing open source projects. You'll then learn how open source tools are distributed, and what to look for to avoid wasting time on projects that aren't ready for you. Next, you'll learn the ins and outs of building your own projects. Fusco also demonstrates what to look for in a text editor, and may even

show you a few new tricks in your favorite text editor. You'll enhance your knowledge of the Linux kernel by learning how it interacts with your software. Fusco walks you through the fundamentals of the Linux kernel with simple, thought-provoking examples that illustrate the principles behind the operating system. Then he shows you how to put this knowledge to use with more advanced tools. He focuses on how to interpret output from tools like sar, vmstat, valgrind, strace, and apply it to your application; how to take advantage of various programming APIs to develop your own tools; and how to write code that monitors itself. Next, Fusco covers tools that help you enhance the performance of your software. He explains the principles behind today's multicore CPUs and demonstrates how to squeeze the most performance from these systems. Finally, you'll learn tools and techniques to debug your code under any circumstances. Coverage includes Maximizing

productivity with editors, revision control tools, source code browsers, and "beautifiers" Interpreting the kernel: what your tools are telling you Understanding processes—and the tools available for managing them Tracing and resolving application bottlenecks with gprof and valgrind Streamlining and automating the documentation process Rapidly finding help, solutions, and workarounds when you need them Optimizing program code with sar, vmstat, iostat, and other tools Debugging IPC with shell commands: signals, pipes, sockets, files, and IPC objects Using printf, gdb, and other essential debugging tools Foreword Preface Acknowledgments About the Author Chapter 1 Downloading and Installing Open Source Tools Chapter 2 Building from Source Chapter 3 Finding Help Chapter 4 Editing and Maintaining Source Files Chapter 5 What Every Developer Should Know about the Kernel Chapter 6 Understanding Processes

Chapter 7 Communication
between Processes Chapter 8
Debugging IPC with Shell
Commands Chapter 9
Performance Tuning Chapter
10 Debugging Index

Embedded Linux Primer -

Christopher Hallinan

2010-10-26

Up-to-the-Minute, Complete
Guidance for Developing
Embedded Solutions with Linux
Linux has emerged as today's
#1 operating system for
embedded products.

Christopher Hallinan's
Embedded Linux Primer has
proven itself as the definitive
real-world guide to building
efficient, high-value, embedded
systems with Linux. Now,
Hallinan has thoroughly
updated this highly praised
book for the newest Linux
kernels, capabilities, tools, and
hardware support, including
advanced multicore processors.
Drawing on more than a
decade of embedded Linux
experience, Hallinan helps you
rapidly climb the learning
curve, whether you're moving
from legacy environments or
you're new to embedded

programming. Hallinan
addresses today's most
important development
challenges and demonstrates
how to solve the problems
you're most likely to encounter.
You'll learn how to build a
modern, efficient embedded
Linux development
environment, and then utilize it
as productively as possible.
Hallinan offers up-to-date
guidance on everything from
kernel configuration and
initialization to bootloaders,
device drivers to file systems,
and BusyBox utilities to real-
time configuration and system
analysis. This edition adds
entirely new chapters on
UDEV, USB, and open source
build systems. Tour the typical
embedded system and
development environment and
understand its concepts and
components. Understand the
Linux kernel and userspace
initialization processes.
Preview bootloaders, with
specific emphasis on U-Boot.
Configure the Memory
Technology Devices (MTD)
subsystem to interface with
flash (and other) memory

devices. Make the most of BusyBox and latest open source development tools. Learn from expanded and updated coverage of kernel debugging. Build and analyze real-time systems with Linux. Learn to configure device files and driver loading with UDEV. Walk through detailed coverage of the USB subsystem. Introduces the latest open source embedded Linux build systems. Reference appendices include U-Boot and BusyBox commands.

Open Source - Fadi P. Deek
2007-11-05

From the Internet's infrastructure to operating systems like GNU/Linux, the open source movement comprises some of the greatest accomplishments in computing over the past quarter century. Its story embraces technological advances, unprecedented global collaboration, and remarkable tools for facilitating distributed development. The evolution of the Internet enabled an enormous expansion of open development, allowing

developers to exchange information and ideas without regard to constraints of space, time, or national boundary. The movement has had widespread impact on education and government, as well as historic cultural and commercial repercussions. Part I discusses key open source applications, platforms, and technologies used in open development. Part II explores social issues ranging from demographics and psychology to legal and economic matters. Part III discusses the Free Software Foundation, open source in the public sector (government and education), and future prospects.

The Design and Implementation of the FreeBSD Operating System - Marshall Kirk McKusick
2014-08

This book contains comprehensive, up-to-date, and authoritative technical information on the internal structure of the FreeBSD open-source operating system. Coverage includes the capabilities of the system; how

to effectively and efficiently interface to the system; how to maintain, tune, and configure the operating system; and how to extend and enhance the system. The authors provide a concise overview of FreeBSD's design and implementation. Then, while explaining key design decisions, they detail the concepts, data structures, and algorithms used in implementing the systems facilities. As a result, this book can be used as an operating systems textbook, a practical reference, or an in-depth study of a contemporary, portable, open-source operating system.

-- Provided by publisher.

Linux with Operating System Concepts - Richard Fox
2021-12-29

A True Textbook for an Introductory Course, System Administration Course, or a Combination Course Linux with Operating System Concepts, Second Edition merges conceptual operating system (OS) and Unix/Linux topics into one cohesive textbook for undergraduate students. The book can be used for a one- or

two-semester course on Linux or Unix. It is complete with review sections, problems, definitions, concepts and relevant introductory material, such as binary and Boolean logic, OS kernels and the role of the CPU and memory hierarchy. Details for Introductory and Advanced Users The book covers Linux from both the user and system administrator positions. From a user perspective, it emphasizes command-line interaction. From a system administrator perspective, the text reinforces shell scripting with examples of administration scripts that support the automation of administrator tasks. Thorough Coverage of Concepts and Linux Commands The author incorporates OS concepts not found in most Linux/Unix textbooks, including kernels, file systems, storage devices, virtual memory and process management. He also introduces computer science topics, such as computer networks and TCP/IP, interpreters versus compilers, file compression, file system

integrity through backups, RAID and encryption technologies, booting and the GNUs C compiler. New in this Edition The book has been updated to systemd Linux and the newer services like Cockpit, NetworkManager, firewalld and journald. This edition explores Linux beyond CentOS/Red Hat by adding detail on Debian distributions. Content across most topics has been updated and improved.

Linux Essentials - Christine Bresnahan 2015-09-01

Learn Linux, and take your career to the next level! Linux Essentials, 2nd Edition provides a solid foundation of knowledge for anyone considering a career in information technology, for anyone new to the Linux operating system, and for anyone who is preparing to sit for the Linux Essentials Exam. Through this engaging resource, you can access key information in a learning-by-doing style. Hands-on tutorials and end-of-chapter exercises and review questions lead you in both learning and applying

new information—information that will help you achieve your goals! With the experience provided in this compelling reference, you can sit down for the Linux Essentials Exam with confidence. An open source operating system, Linux is a UNIX-based platform that is freely updated by developers. The nature of its development means that Linux is a low-cost and secure alternative to other operating systems, and is used in many different IT environments. Passing the Linux Essentials Exam prepares you to apply your knowledge regarding this operating system within the workforce. Access lessons that are organized by task, allowing you to quickly identify the topics you are looking for and navigate the comprehensive information presented by the book Discover the basics of the Linux operating system, including distributions, types of open source applications, freeware, licensing, operations, navigation, and more Explore command functions, including navigating the command line,

turning commands into scripts,
and more Identify and create
user types, users, and groups
Linux Essentials, 2nd Edition is

a critical resource for anyone
starting a career in IT or
anyone new to the Linux
operating system.