Selinux System Administration Second Edition

Ward off traditional security permissions and effectively secure your Linux systems with SELinux About This Book Leverage SELinux to improve the secure state of your Linux system A clear approach to adopting SELinux within your organization Essential skills and techniques to help further your system administration career Who This Book Is For This book is for Linux administrators who want to control the secure state of their systems. It's packed with the latest information on SELinux operations and administrative procedures so you'll be able to further harden your system through mandatory access control (MAC) – a security strategy that has been shaping Linux security for years. What You Will Learn Analyze SELinux events and selectively enable or disable SELinux enforcement Manage Linux users and associate them with the right role and permission set Secure network communications through SELinux access controls Tune the full service flexibility by dynamically assigning resource labels Handle SELinux access patterns enforced through the system Query the SELinux policy in depth In Detail Do you have the crucial job of protecting your private and company systems from malicious attacks and undefined application behavior? Are you looking to secure your Linux systems with improved access controls? Look no further, intrepid administrator! This book will show you how to enhance your system's secure state across Linux distributions, helping you keep application vulnerabilities at bay. This book covers the core SELinux concepts and shows you how to leverage SELinux to improve the protection measures of a Linux system. You will learn the SELinux fundamentals and all of SELinux's configuration handles including conditional policies, constraints, policy types, and audit capabilities. These topics are paired with genuine examples of situations and issues you may come across as an administrator. In addition, you will learn how to further harden the virtualization offering of both libvirt (sVirt) and Docker through SELinux. By the end of the book you will know how SELinux works and how you can tune it to meet your needs. Style and approach This book offers a complete overview of SELinux administration and how it integrates with other components on a Linux system. It covers the majority of SELinux features with a mix of real life scenarios, descriptions, and examples. This book contains everything an administrator needs to customize SELinux.

More than 50 percent new and revised content for today's Linux environment gets you up and running in no time! Linux continues to be an excellent, low-cost alternative to expensive operating systems. Whether you're new to Linux or need a reliable update and reference, this is an excellent resource. Veteran bestselling author Christopher Negus provides a complete tutorial packed with major updates, revisions, and hands-on exercises so that you can confidently start using Linux today. Offers a complete restructure, complete with exercises, to make the book a better learning tool Places a strong focus on the Linux command line tools and can be used with all distributions and versions of Linux Features in-depth coverage of the tools that a power user and a Linux administrator need to get started This practical learning tool is ideal for anyone eager to set up a new Linux desktop system at home or curious to learn how to manage Linux server systems at work.

This is the eBook version of the print title. Learn, prepare, and practice for Red Hat RHCSA 8 (EX200) exam success with this Cert Guide from Pearson IT Certification, a leader in IT Certification learning. Master Red Hat RHCSA 8 EX200 exam topics Assess your knowledge with chapter-ending quizzes Review key concepts with exam-preparation tasks Practice with four unique practice tests Learn from two full hours of video training from the author's Red Hat Certified System Administrator (RHCSA) Complete Video Course, 3rd Edition. Red Hat RHCSA 8 Cert Guide is a best-of-breed exam study guide. Leading Linux consultant, author, and instructor Sander van Vugt shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. The book presents you with an organized test-preparation routine through the use of proven series elements and techniques. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. Review questions help you assess your knowledge, and a final preparation chapter guides you through tools and resources to help you craft your final study plan. Well regarded for its level of detail, assessment features, and challenging review questions and exercises, this study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time, including Basic system management: Installation, tools, file management, text files, RHEL8 connections, user/group management, permissions, and network configuration Operating running systems: Managing software, processes, storage, and advanced storage; working with systemd; scheduling tasks; and configuring logging Advanced system administration: Managing the kernel and boot procedures, essential troubleshooting, bash shell scripting Managing network services: Configuring SSH, firewalls, and time services; managing Apache HTTP services and SE Linux; and accessing network storage

Enhance file system security and learn about network attack, security tools and different versions of Linux build. Key Features Hands-on recipes to create and administer a secure Linux system Enhance file system security and local and remote user authentication Use various security tools and different versions of Linux for different tasks Book Description Over the last few years, system security has gained a lot of momentum and software professionals are focusing heavily on it. Linux is often treated as a highly secure operating system. However, the reality is that Linux has its share of security flaws, and these security flaws allow attackers to get into your system and modify or even destroy your important data. But there's no need to panic, since there are various mechanisms by which these flaws can be removed, and this book will help you learn about different types of Linux security to create a more secure Linux system. With a step-by-step recipe approach, the book starts by introducing you to various threats to Linux systems. Then, this book will walk you through customizing the Linux kernel and securing local files. Next, you will move on to managing user authentication both locally and remotely and mitigating network attacks. Later, you will learn about application security and kernel vulnerabilities. You will also learn about patching Bash vulnerability, packet filtering, handling incidents, and monitoring system logs. Finally, you will learn about auditing using system services and performing vulnerability scanning on Linux. By the end of this book, you will be able to secure your Linux systems and create a robust environment. What you will learn Learn about vulnerabilities and exploits in relation to Linux systems Configure and build a secure kernel and test it Learn about file permissions and how to securely modify files Authenticate users remotely and securely copy files on remote systems Review different network security methods and tools Perform vulnerability scanning on Linux machines using tools Learn about malware scanning and read through logs Who this book is for This book is intended for all those Linux users who already have knowledge of Linux file systems and administration. You should be familiar with basic Linux

commands. Understanding information security and its risks to a Linux system is also helpful in understanding the recipes more easily.

The definitive guide to administering a Red Hat EnterpriseLinux 6 network Linux professionals who need a go-to guide on version 6 of RedHat Enterprise Linux (RHEL) will find what they need in thiscomprehensive Sybex book. It covers RHEL administration in detail,including how to set up and manage web and mail services, use RHELin enterprise environments, secure it, optimize storage, configurefor virtualization and high availability, and much more. It alsoprovides a great study aid for those preparing for either the RHCSAor RHCE certification exam. Red Hat is the Linux market leader, and Red Hat administratorsare in demand This Sybex guide is a comprehensive resource on Red HatEnterprise Linux administration and useful for those preparing forone of the Red Hat certification exams Covers setting up and managing web and mail services, usingRHEL in enterprise environments, securing RHEL, and optimizingstorage to fit your environment Explores advanced RHEL configurations, including virtualizationand high availability Red Hat Enterprise Linux 6 Administration is the guideLinux professionals and Red Hat administrators need to stay currenton the newest version.

Ward off traditional security permissions and effectively secure your Linux systems with SELinuxAbout This Book* Leverage SELinux to improve the security of your Linux system* An easy-to-follow approach and instructions to help you adopt SELinux within your organization* Acquire key skills and techniques in your system administration careerWho This Book Is ForThis book is for both beginners as well as seasoned Linux administrators who want to control the secure state of their systems. Packed with the latest information on SELinux operations and administrative procedures, you will enjoy hardening your system further through the Mandatory Access Control system that has been shaping Linux' security for years.What You Will Learn* Analyse SELinux events and selectively enable or disable SELinux enforcement* Manage Linux users and associate them with the right role and permission set* Secure network communications through SELinux' access controls* Tune the full service flexibility by dynamically assigning resource labels* Handle SELinux' access patterns enforced through the system* Query the SELinux policy in depthIn DetailDo you have the daunting job of protecting your and your company's systems from malicious attacks and undefined application behaviour? Or are you looking to secure your Linux systems with improved access control? Well, look no further! This book gives you all the preliminary know-hows about enhancing your system's security across Linux distributions, helping you keep application vulnerabilities at bay.In this book, we describe the SELinux concepts and show you how to leverage SELinux to improve the secure state of a Linux system. You will learn not only about the fundamental SELinux concepts, but also about all of SELinux's configuration handles including conditional policies, constraints, policy types, and audit capabilities, with genuine examples that you as administrators might come across. In addition, you will learn how to further harden the virtualization offering of both libvirt (sVirt) and Docker through SELinux.By the end of the book, you will know how SELinux works and how it can be tuned to your needs.

Over 100 recipes to get up and running with the modern Linux administration ecosystem Key Features Understand and implement the core system administration tasks in Linux Discover tools and techniques to troubleshoot your Linux system Maintain a healthy system with good security and backup practices Book Description Linux is one of the most widely used operating systems among system administrators,and even modern application and server development is heavily reliant on the Linux platform. The Linux Administration Cookbook is your go-to guide to get started on your Linux journey. It will help you understand what that strange little server is doing in the corner of your office, what the mysterious virtual machine languishing in Azure is crunching through, what that circuit-board-like thing is doing under your office TV, and why the LEDs on it are blinking rapidly. This book will get you started with administering Linux, giving you the knowledge and tools you need to troubleshoot day-to-day problems, ranging from a Raspberry Pi to a server in Azure, while giving you a good understanding of the fundamentals of how GNU/Linux works. Through the course of the book, you'll install and configure a system, while the author regales you with errors and anecdotes from his vast experience as a data center hardware engineer, systems administrator, and DevOps consultant. By the end of the book, you will have gained practical knowledge of Linux, which will serve as a bedrock for learning Linux administration and aid you in your Linux journey. What you will learn Install and manage a Linux server, both locally and in the cloud Understand how to perform administration across all Linux distros Work through evolving concepts such as IaaS versus PaaS, containers, and automation Explore security and configuration best practices Troubleshoot your system if something goes wrong Discover and mitigate hardware issues, such as faulty memory and failing drives Who this book is for If you are a system engineer or system administrator with basic experience of working with Linux, this book is for you.

"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® FedoraTM 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.

Summary Linux in Action is a task-based tutorial that will give you the skills and deep understanding you need to administer a Linux-based system. This hands-on book guides you through 12 real-world projects so you can practice as you learn. Each chapter ends with a review of best practices, new terms, and exercises. Purchase of the print book includes a free eBook in PDF,

Kindle, and ePub formats from Manning Publications. About the Technology You can't learn anything without getting your hands dirtyÃ¢â‚¬â€ including Linux. Skills like securing files, folders, and servers, safely installing patches and applications, and managing a network are required for any serious user, including developers, administrators, and DevOps professionals. With this hands-on tutorial, you'll roll up your sleeves and learn Linux project by project. About the Book Linux in Action guides you through 12 real-world projects, including automating a backup-and-restore system, setting up a private Dropbox-style file cloud, and building your own MediaWiki server. You'll try out interesting examples as you lock in core practices like virtualization, disaster recovery, security, backup, DevOps, and system troubleshooting. Each chapter ends with a review of best practices, new terms, and exercises. What's inside Setting up a safe Linux environment Managing secure remote connectivity Building a system recovery device Patching and upgrading your system About the Reader No prior Linux admin experience is required. About the Author David Clinton is a certified Linux Server Professional, seasoned instructor, and author of Manning's bestselling Learn Amazon Web Services in a Month of Lunches. Table of Contents Welcome to Linux Linux virtualization: Building a Linux working environment Remote connectivity: Safely accessing networked machines Archive management: Backing up or copying entire file systems Automated administration: Configuring automated offsite backups Emergency tools: Building a system recovery device Web servers: Building a MediaWiki server Networked file sharing: Building a Nextcloud file-sharing server Securing your web server Securing network connections: Creating a VPN or DMZ System monitoring: Working with log files Sharing data over a private network Troubleshooting system performance issues Troubleshooting network issues Troubleshooting peripheral devices DevOps tools: Deploying a scripted server environment using Ansible

Now covers Red Hat Linux! Written by Evi Nemeth, Garth Snyder, Scott Seebass, and Trent R. Hein with Adam Boggs, Rob Braun, Ned McClain, Dan Crawl, Lynda McGinley, and Todd Miller "This is not a nice, neat book for a nice, clean world. It's a nasty book for a nasty world. This is a book for the rest of us." –Eric Allman and Marshall Kirk McKusick "I am pleased to welcome Linux to the UNIX System Administration Handbook!" –Linus Torvalds, Transmeta "This book is most welcome!" –Dennis Ritchie, AT&T Bell Laboratories This new edition of the world's most comprehensive guide to UNIX system administration is an ideal tutorial for those new to administration and an invaluable reference for experienced professionals. The third edition has been expanded to include "direct from the frontlines" coverage of Red Hat Linux. UNIX System Administration Handbook describes every aspect of system administration–from basic topics to UNIX esoterica–and provides explicit coverage of four popular UNIX systems: This book stresses a practical approach to system administration. It's packed with war stories and pragmatic advice, not just theory and watered-down restatements of the manuals. Difficult subjects such as sendmail, kernel building, and DNS configuration are tackled head-on. Examples are provided for all four versions of UNIX and are drawn from real-life systems–warts and all. "This book is where I turn first when I have system administration questions. It is truly a wonderful resource and always within reach of my terminal." –W. Richard Stevens, author of numerous books on UNIX and TCP/IP "This is a comprehensive guide to the care and feeding of UNIX systems. The authors present the facts along with seasoned advice and numerous real-world examples. Their perspective on the variations among systems is valuable for anyone who runs a heterogeneous computing facility." –Pat Parseghian, Transmeta "We noticed your book on the staff recommendations shelf at our local bookstore: 'Very clear, a masterful interpretation of the subject.' We were most impressed, until we noticed that the same staff member had also recommended Aunt Bea's Mayberry Cookbook." –Shannon Bloomstran, history teacher

The author focuses solely on how UNIX and Linux system administrators can use well-known tools to automate tasks, even across multiple systems.

Arguably one of the most highly regarded and widely used enterprise level operating systems available today is the CentOS 8 distribution. Not only is it considered to be among the most stable and reliable operating systems, it is also backed by the considerable resources and technical skills of Red Hat, Inc. CentOS 8 Essentials is designed to provide detailed information on the installation, use and administration of the CentOS 8 distribution. For beginners, the book covers topics such as operating system installation, the basics of the GNOME desktop environment, configuring email and web servers and installing packages and system updates using App Streams. Additional installation topics such as dual booting with Microsoft Windows are also covered, together with all important security topics such as configuring a firewall and user and group administration. For the experienced user, topics such as remote desktop access, the Cockpit web interface, logical volume management (LVM), disk partitioning, swap management, KVM virtualization, Secure Shell (SSH), Linux Containers and file sharing using both Samba and NFS are covered in detail to provide a thorough overview of this enterprise class operating system.

A comprehensive guide to mastering the art of preventing your Linux system from getting compromised. Key Features Leverage this guide to confidently deliver a system that reduces the risk of being hacked Perform a number of advanced Linux security techniques such as network service detection, user authentication, controlling special permissions, encrypting file systems, and much more Master the art of securing a Linux environment with this end-to-end practical guide Book Description This book has extensive coverage of techniques that will help prevent attackers from breaching your system, by building a much more secure Linux environment. You will learn various security techniques such as SSH hardening, network service detection, setting up firewalls, encrypting file systems, protecting user accounts, authentication processes, and so on. Moving forward, you will also develop hands-on skills with advanced Linux permissions, access control, special modes, and more. Lastly, this book will also cover best practices and troubleshooting techniques to get your work done efficiently. By the end of this book, you will be confident in delivering a system that will be much harder to compromise. What you will learn Use various techniques to prevent intruders from accessing sensitive data Prevent intruders from planting malware, and detect whether malware has been planted Prevent insiders from accessing data that they aren't authorized to access Do quick checks to see whether a computer is running network services that it doesn't need to run Learn security techniques that are common to all Linux distros, and some that are distro-specific Who this book is for If you are a systems administrator or a network engineer interested in making your Linux environment more secure, then this book is for you. Security consultants wanting to enhance their Linux security skills will also benefit

from this book. Prior knowledge of Linux is mandatory.

There are more than one billion Android devices in use today, each one a potential target. Unfortunately, many fundamental Android security features have been little more than a black box to all but the most elite security professionals—until now. In Android Security Internals, top Android security expert Nikolay Elenkov takes us under the hood of the Android security system. Elenkov describes Android security architecture from the bottom up, delving into the implementation of major security-related components and subsystems, like Binder IPC, permissions, cryptographic providers, and device administration. You'll learn: –How Android permissions are declared, used, and enforced –How Android manages application packages and employs code signing to verify their authenticity –How Android implements the Java Cryptography Architecture (JCA) and Java Secure Socket Extension (JSSE) frameworks –About Android's credential storage system and APIs, which let applications store cryptographic keys securely –About the online account management framework and how Google accounts integrate with Android –About the implementation of verified boot, disk encryption, lockscreen, and other device security features –How Android's bootloader and recovery OS are used to perform full system updates, and how to obtain root access With its unprecedented level of depth and detail, Android Security Internals is a must-have for any security-minded Android developer.

Even small applications have dozens of components. Large applications may have thousands, which makes them challenging to install, maintain, and remove. Docker bundles all application components into a package called a container that keeps things tidy and helps manage any dependencies on other applications or infrastructure. Docker in Action, Second Edition teaches you the skills and knowledge you need to create, deploy, and manage applications hosted in Docker containers. This bestseller has been fully updated with new examples, best practices, and entirely new chapters. You'll start with a clear explanation of the Docker model and learn how to package applications in containers, including techniques for testing and distributing applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

SELinux System Administration - Second Edition

"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.

If you are a Linux system administrator or a Linux-based service administrator and want to fine-tune SELinux to implement a supported, mature, and proven access control system, then this book is for you. Basic experience with SELinux enabled distributions is expected.

Over 80 recipes to get up and running with CentOS 7 Linux server About This Book A practical guide to install, configure, administer and maintain CentOS 7 servers An in-depth guide to the CentOS 7 operating system, exploring its various new features and changes in server administration Presents tricks and solutions to tackle common server issues with the help of practical examples and real-life scenarios Who This Book Is For This book is targeted at beginner and more experienced system administrators alike who want to use CentOS as their server solution. Readers do not need much pre-knowledge or experience at all to work with this book. What You Will Learn Install and configure CentOS 7 Linux server system from scratch using normal and advanced methods Maintain a performance-based and secure server solution by deploying expert configuration advice and managing software packages Monitor, manage and develop your server's file system to maintain a stable performance Gain best practice methods on sharing files and resources through a network Install and configure common standard services such as web, mail, FTP, database and domain name server technologies Introduce you to the world of operating-system-level virtualization using the Docker platform. Understand the fundamentals of the Security-Enhanced Linux access control architecture Monitor your IT infrastructure using Nagios In Detail This book will provide you with a comprehensive series of starting points that will give you direct access to the inner workings of the latest CentOS version 7 and help you trim the learning curve to master your server. You will begin with the installation and basic configuration of CentOS 7, followed by learning how to manage your system, services and software packages. You will then gain an understanding of how to administer the file system, secure access to your server and configure various resource sharing services such as file, printer and DHCP servers across your network. Further on, we cover advanced topics such as FTP services, building your own DNS server, running database servers, and providing mail and web services. Finally, you will get a deep understanding of SELinux and you will learn how to work with Docker

operating-system virtualization and how to monitor your IT infrastructure with Nagios. By the end of this book, you will have a fair understanding of all the aspects of configuring, implementing and administering CentOS 7 Linux server and how to put it in control. Style and approach This book is a practical reference guide with hands-on examples and solutions to real-world administration problems. It covers in-depth and comprehensive information on CentOS 7 and its new features.

Debian GNU/Linux, a very popular non-commercial Linux distribution, is known for its reliability and richness. Built and maintained by an impressive network of thousands of developers throughout the world, the Debian project is cemented by its social contract. This foundation text defines the project's objective: fulfilling the needs of users with a 100% free operating system. The success of Debian and of its ecosystem of derivative distributions (with Ubuntu at the forefront) means that an increasing number of administrators are exposed to Debian's technologies. This Debian Administrator's Handbook, which has been entirely updated for Debian 8 "Jessie", builds on the success of its 6 previous editions. Accessible to all, this book teaches the essentials to anyone who wants to become an effective and independent Debian GNU/Linux administrator. It covers all the topics that a competent Linux administrator should master, from installation to updating the system, creating packages and compiling the kernel, but also monitoring, backup and migration, without forgetting advanced topics such as setting up SELinux or AppArmor to secure services, automated installations, or virtualization with Xen, KVM or LXC. This book is not only designed for professional system administrators. Anyone who uses Debian or Ubuntu on their own computer is de facto an administrator and will find tremendous value in knowing more about how their system works. Being able to understand and resolve problems will save you invaluable time. Learn more about the book on its official website: debian-handbook.info

Achieve Linux system administration mastery with time-tested and proven techniques In Mastering Linux System Administration, Linux experts and system administrators Christine Bresnahan and Richard Blum deliver a comprehensive roadmap to go from Linux beginner to expert Linux system administrator with a learning-by-doing approach. Organized by do-it-yourself tasks, the book includes instructor materials like a sample syllabus, additional review questions, and slide decks. Amongst the practical applications of the Linux operating system included within, you'll find detailed and easy-to-follow instruction on: Installing Linux servers, understanding the boot and initialization processes, managing hardware, and working with networks Accessing the Linux command line, working with the virtual directory structure, and creating shell scripts to automate administrative tasks Managing Linux user accounts, system security, web and database servers, and virtualization environments Perfect for entry-level Linux system administrators, as well as system administrators familiar with Windows, Mac, NetWare, or other UNIX systems, Mastering Linux System Administration is a must-read guide to manage and secure Linux servers.

* Updated to cover Red Hat Linux Enterprise Workstation with the latest on advanced Linux kernel features, the Tux Web server, the latest Apache 2.x Web server, and the expanded suite of custom configuration tools * Starts with network planning and Red Hat installation and configuration, then progresses to optimizing network and Internet services and monitoring and maintaining the network * Examines the basics of Red Hat Linux security and offers trouble-shooting and problem-solving advice * Includes important new chapters that focus on optimizing standard network services, such as file and print services, and Internet-related servers, such as the Apache Web server Copyright © 2004 by Red Hat, Inc. Material from Chapters 4-6, 8-10, 17 and 21 may be distributed only subject to the terms and conditions set forth in the Open Publication License, V1.0 or later (the latest version is presently available at http://www.opencontent.org/openpub/).

A guide geared toward seasoned Linux and Unix administrators offers practical knowledge for managing a range of Linux systems and servers, covering such topics as installing servers, setting up e-mail systems, and creating shell scripts.

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, thttpd, tftp, strace, and gdb are among the packages discussed.

"The Second Edition of Security Strategies in Linux Platforms and Applications opens with a discussion of risks, threats, and vulnerabilities. Part 2 discusses how to take

advantage of the layers of security and the modules associated with AppArmor and SELinux. Part 3 looks at the use of open source and proprietary tools when building a layered security strategy"--

To thoroughly understand what makes Linux tick and why it's so efficient, you need to delve deep into the heart of the operating system--into the Linux kernel itself. The kernel is Linux--in the case of the Linux operating system, it's the only bit of software to which the term "Linux" applies. The kernel handles all the requests or completed I/O operations and determines which programs will share its processing time, and in what order. Responsible for the sophisticated memory management of the whole system, the Linux kernel is the force behind the legendary Linux efficiency. The new edition of Understanding the Linux Kernel takes you on a guided tour through the most significant data structures, many algorithms, and programming tricks used in the kernel. Probing beyond the superficial features, the authors offer valuable insights to people who want to know how things really work inside their machine. Relevant segments of code are dissected and discussed line by line. The book covers more than just the functioning of the code, it explains the theoretical underpinnings for why Linux does things the way it does. The new edition of the book has been updated to cover version 2.4 of the kernel, which is quite different from version 2.2: the virtual memory system is entirely new, support for multiprocessor systems is improved, and whole new classes of hardware devices have been added. The authors explore each new feature in detail. Other topics in the book include: Memory management including file buffering, process swapping, and Direct memory Access (DMA) The Virtual Filesystem and the Second Extended Filesystem Process creation and scheduling Signals, interrupts, and the essential interfaces to device drivers Timing Synchronization in the kernel Interprocess Communication (IPC) Program execution Understanding the Linux Kernel, Second Edition will acquaint you with all the inner workings of Linux, but is more than just an academic exercise. You'll learn what conditions bring out Linux's best performance, and you'll see how it meets the challenge of providing good system response during process scheduling, file access, and memory management in a wide variety of environments. If knowledge is power, then this book will help you make the most of your Linux system.

Despite the increase of high-profile hacks, record-breaking data leaks, and ransomware attacks, many organizations don't have the budget to establish or outsource an information security (InfoSec) program, forcing them to learn on the job. For companies obliged to improvise, this pragmatic guide provides a security-101 handbook with steps, tools, processes, and ideas to help you drive maximum-security improvement at little or no cost. Each chapter in this book provides step-by-step instructions for dealing with a specific issue, including breaches and disasters, compliance, network infrastructure and password management, vulnerability scanning, and penetration testing, among others. Network engineers, system administrators, and security professionals will learn tools and techniques to help improve security in sensible, manageable chunks. Learn fundamentals of starting or redesigning an InfoSec program Create a base set of policies, standards, and procedures Plan and design incident response, disaster recovery, compliance, and physical security Bolster Microsoft and Unix systems, network infrastructure, and password management Use segmentation practices and designs to compartmentalize your network Explore automated process and tools for vulnerability management Securely develop code to reduce exploitable errors Understand basic penetration testing concepts through purple teaming Delve into IDS, IPS, SOC, logging, and monitoring

Your step-by-step guide to the latest in Linux Nine previous editions of this popular benchmark guide can't be wrong! Whether you're new to Linux and need a step-by-step guide or are a pro who wants to catch up with recent distributions, Linux For Dummies, 10th Edition has your back. Covering everything from installation to automation, this updated edition focuses on openSUSE and Ubuntu and includes new and refreshed material—as well as chapters on building a web server and creating simple shell scripts. In his friendly, no-jargon style, IT professional and tech higher education instructor Richard Blum draws on more than 10 years of teaching to show you just why Linux's open source operating systems are relied on to run a huge proportion of the world's online infrastructure, servers, supercomputers, and NAS devices—and how you can master them too. Study the thinking behind Linux Choose the right installation approach Pick up the basics—from prepping to desktops Get fancy with music, video, movies, and games Whatever your Linux needs—work, fun, or just a hobby—this bestselling, evergreen guide will get you up and coding in the open source revolution in no time at all.

Develop advanced skills for working with Linux systems on-premises and in the cloud Key Features Become proficient in everyday Linux administration tasks by mastering the Linux command line and using automation Work with the Linux filesystem, packages, users, processes, and daemons Deploy Linux to the cloud with AWS, Azure, and Kubernetes Book Description Linux plays a significant role in modern data center management and provides great versatility in deploying and managing your workloads on-premises and in the cloud. This book covers the important topics you need to know about for your everyday Linux administration tasks. The book starts by helping you understand the Linux command line and how to work with files, packages, and filesystems. You'll then begin administering network services and hardening security, and learn about cloud computing, containers, and orchestration. Once you've learned how to work with the command line, you'll explore the essential Linux commands for managing users, processes, and daemons and discover how to secure your Linux environment using application security frameworks and firewall managers. As you advance through the chapters, you'll work with containers, hypervisors, virtual machines, Ansible, and Kubernetes. You'll also learn how to deploy Linux to the cloud using AWS and Azure. By the end of this Linux book, you'll be well-versed with Linux and have mastered everyday administrative tasks using workflows spanning from on-premises to the cloud. If you also find yourself adopting DevOps practices in the process, we'll consider our mission accomplished. What you will learn Understand how Linux works and learn basic to advanced Linux administration skills Explore the most widely used commands for managing the Linux filesystem, network, security, and more Get to grips with different networking and messaging protocols Find out how Linux security works and how to configure SELinux, AppArmor, and Linux iptables Work with virtual machines and containers and understand container orchestration with Kubernetes Work with containerized workflows using Docker and Kubernetes Automate your configuration management workloads with Ansible Who this book is for If you are a Linux administrator who wants to understand the fundamentals and as well as modern concepts of Linux system administration, this book is for you. Windows System Administrators looking to extend their knowledge to the Linux OS will also benefit from this book.

Arguably one of the most highly regarded and widely used enterprise level operating systems available today is the Red Hat Enterprise Linux 8 distribution. Not only is it considered to be among the most stable and reliable operating systems, it is also backed by the considerable resources and technical skills of Red Hat, Inc. Red Hat Enterprise Linux 8 Essentials is designed to provide detailed information on

the installation, use and administration of the Red Hat Enterprise Linux 8 distribution. For beginners, the book covers topics such as operating system installation, the basics of the GNOME desktop environment, configuring email and web servers and installing packages and system updates using App Streams. Additional installation topics such as dual booting with Microsoft Windows are also covered, together with all important security topics such as configuring a firewall and user and group administration. For the experienced user, topics such as remote desktop access, the Cockpit web interface, logical volume management (LVM), disk partitioning, swap management, KVM virtualization, Secure Shell (SSH), Linux Containers and file sharing using both Samba and NFS are covered in detail to provide a thorough overview of this enterprise class operating system.

A step-by-step guide to learn how to set up security on Linux servers by taking SELinux policies into your own hands.Linux administrators will enjoy the various SELinux features that this book covers and the approach used to guide the admin into understanding how SELinux works. The book assumes that you have basic knowledge in Linux administration, especially Linux permission and user management.

Pro Ubuntu Server Administration teaches you advanced Ubuntu system building. After reading this book, you will be able to manage anything from simple file servers to multiple virtual servers to high–availability clusters. This is the capstone volume of the Apress Ubuntu trilogy that includes Beginning Ubuntu Linux, Third Edition and Beginning Ubuntu Server LTS Administration: From Novice to Professional, Second Edition. You will be able to make Ubuntu technology shine in a Fortune 500 environment and let Ubuntu server become the backbone of your infrastructure. Topics covered include Performance monitoring and optimization High–availability clustering Advanced Lightweight Directory Access Protocol (LDAP) integrated networking

Hardening a Linux system can make it much more difficult for an attacker to exploit it. This book will enable system administrators and network engineers to protect their Linux systems, and the sensitive data on those systems.

Achieve enterprise automation in your Linux environment with this comprehensive guide Key Features Automate your Linux infrastructure with the help of practical use cases and real-world scenarios Learn to plan, build, manage, and customize OS releases in your environment Enhance the scalability and efficiency of your infrastructure with advanced Linux system administration concepts Book Description Automation is paramount if you want to run Linux in your enterprise effectively. It helps you minimize costs by reducing manual operations, ensuring compliance across data centers, and accelerating deployments for your cloud infrastructures. Complete with detailed explanations, practical examples, and self-assessment questions, this book will teach you how to manage your Linux estate and leverage Ansible to achieve effective levels of automation. You'll learn important concepts on standard operating environments that lend themselves to automation, and then build on this knowledge by applying Ansible to achieve standardization throughout your Linux environments. By the end of this Linux automation book, you'll be able to build, deploy, and manage an entire estate of Linux servers with higher reliability and lower overheads than ever before. What you will learn Perform large-scale automation of Linux environments in an enterprise Overcome the common challenges and pitfalls of extensive automation Define the business processes needed to support a large-scale Linux environment Get well-versed with the most effective and reliable patch management strategies Automate a range of tasks from simple user account changes to complex security policy enforcement Learn best practices and procedures to make your Linux environment automatable Who this book is for This book is for anyone who has a Linux environment to design, implement, and maintain. Open source professionals including infrastructure architects and system administrators will find this book useful. You're expected to have experience in implementing and maintaining Linux servers along with knowledge of building, patching, and maintaining server infrastructure. Although not necessary, knowledge of Ansible or other automation technologies will be beneficial.

Enhance Linux security, application platforms, and virtualization solutions with SELinux to work within your boundaries, your rules, and your policiesKey Features* Learn what SELinux is, and how it acts as a mandatory access control system on Linux* Apply and tune SELinux enforcement to users, applications, platforms, and virtualization solutions* Use real-life examples and custom policies to strengthen the security posture of your systemsBook DescriptionLinux is a dominant player in many organizations and in the cloud. Securing the Linux environment is extremely important for any organization, and Security-Enhanced Linux (SELinux) acts as an additional layer to Linux system security.SELinux System Administration covers basic SELinux concepts and shows you how to enhance Linux system protection measures. You will get to grips with SELinux and understand how it is integrated. As you progress, you'll get hands-on experience of tuning and configuring SELinux and integrating it into day-to-day administration tasks such as user management, network management, and application maintenance. Platforms such as Kubernetes, system services like systemd, and virtualization solutions like libvirt and Xen, all of which offer SELinux-specific controls, will be explained effectively so that you understand how to apply and configure SELinux within these applications. If applications do not exert the expected behavior, you'll learn how to fine-tune policies to securely host these applications. In case no policies exist, the book will guide you through developing custom policies on your own.By the end of this Linux book, you'll be able to harden any Linux system using SELinux to suit your needs and fine-tune existing policies and develop custom ones to protect any app and service running on your Linux systems.What you will learn* Understand what SELinux is and how it is integrated into Linux* Tune Linux security using policies and their configurable settings* Manage Linux users with least-privilege roles and access controls* Use SELinux controls in system services and virtualization solutions* Analyze SELinux behavior through log events and policy analysis tools* Protect systems against unexpected and malicious behavior* Enhance existing policies or develop custom onesWho this book is forThis Linux sysadmin book is for Linux administrators who want to control the secure state of their systems using SELinux, and for security professionals who have experience in maintaining a Linux system and want to know about SELinux. Experience in maintaining Linux systems, covering user management, software installation and maintenance, Linux security controls, and network configuration is required to get the most out of this book.

SELinux: Bring World-Class Security to Any Linux Environment! SELinux offers Linux/UNIX integrators, administrators, and developers a state-of-the-art platform for building and maintaining highly secure solutions. Now that SELinux is included in the Linux 2.6 kernel—and delivered by default in Fedora Core, Red Hat Enterprise Linux, and other major distributions—it's easier than ever to take advantage of its benefits. SELinux by Example is the first complete, hands-on guide to using SELinux in production environments. Authored by three leading SELinux researchers and developers, it illuminates every facet of working with SELinux, from its architecture and security object model to its policy language. The book thoroughly explains SELinux sample policies— including the powerful new Reference Policy—showing how to quickly adapt them to your unique environment. It also contains a comprehensive SELinux policy language reference and covers exciting new features in Fedora Core 5 and the upcoming Red Hat Enterprise Linux version 5. • Thoroughly understand SELinux's access control and security mechanisms • Use SELinux to construct secure systems from the ground up • Gain fine-grained control over kernel resources • Write policy statements for type enforcement, roles, users, and constraints • Use optional multilevel security to enforce information classification and manage users with diverse clearances • Create conditional policies that can be changed on-the-fly • Define, manage, and maintain SELinux security policies • Develop and write new SELinux security policy modules • Leverage emerging SELinux technologies to gain even greater flexibility • Effectively administer any SELinux system

Implement a SOHO or SMB Linux infrastructure to expand your business and associated IT capabilities. Backed by the expertise and experienced guidance of the authors, this book provides everything you need to move your business forward. Pro Linux System Administration makes it easy for small- to medium–sized businesses to enter the world of zero–cost software running on Linux and covers all the

distros you might want to use, including Red Hat, Ubuntu, Debian, and CentOS. Pro Linux System Administration takes a layered, component–based approach to open source business systems, while training system administrators as the builders of business infrastructure. Completely updated for this second edition, Dennis Matotek takes you through an infrastructure-as-code approach, seamlessly taking you through steps along the journey of Linux administration with all you need to master complex systems. This edition now includes Jenkins, Ansible, Logstash and more. What You'll Learn: Understand Linux architecture Build, back up, and recover Linux servers Create basic networks and network services with Linux Build and implement Linux infrastructure and services including mail, web, databases, and file and print Implement Linux security Resolve Linux performance and capacity planning issues Who This Book Is For: Small to medium–sized business owners looking to run their own IT, system administrators considering migrating to Linux, and IT systems integrators looking for an extensible Linux infrastructure management approach.

You've experienced the shiny, point-and-click surface of your Linux computer—now dive below and explore its depths with the power of the command line. The Linux Command Line takes you from your very first terminal keystrokes to writing full programs in Bash, the most popular Linux shell. Along the way you'll learn the timeless skills handed down by generations of gray-bearded, mouse-shunning gurus: file navigation, environment configuration, command chaining, pattern matching with regular expressions, and more. In addition to that practical knowledge, author William Shotts reveals the philosophy behind these tools and the rich heritage that your desktop Linux machine has inherited from Unix supercomputers of yore. As you make your way through the book's short, easily-digestible chapters, you'll learn how to: * Create and delete files, directories, and symlinks * Administer your system, including networking, package installation, and process management * Use standard input and output, redirection, and pipelines * Edit files with Vi, the world's most popular text editor * Write shell scripts to automate common or boring tasks * Slice and dice text files with cut, paste, grep, patch, and sed Once you overcome your initial "shell shock," you'll find that the command line is a natural and expressive way to communicate with your computer. Just don't be surprised if your mouse starts to gather dust. A featured resource in the Linux Foundation's "Evolution of a SysAdmin"

If you are a Linux administrator who is looking to gain knowledge that differentiates yourself from the crowd, then this is the book for you. Beginners who have a keen interest to learn more about Linux administration will also progress quickly with this resourceful learning guide.

Over the last few years, Linux has grown both as an operating system and a tool for personal and business use. Simultaneously becoming more user friendly and more powerful as a back-end system, Linux has achieved new plateaus: the newer filesystems have solidified, new commands and tools have appeared and become standard, and the desktop--including new desktop environments--have proved to be viable, stable, and readily accessible to even those who don't consider themselves computer gurus. Whether you're using Linux for personal software projects, for a small office or home office (often termed the SOHO environment), to provide services to a small group of colleagues, or to administer a site responsible for millions of email and web connections each day, you need quick access to information on a wide range of tools. This book covers all aspects of administering and making effective use of Linux systems. Among its topics are booting, package management, and revision control. But foremost in Linux in a Nutshell are the utilities and commands that make Linux one of the most powerful and flexible systems available. Now in its fifth edition, Linux in a Nutshell brings users up-to-date with the current state of Linux. Considered by many to be the most complete and authoritative command reference for Linux available, the book covers all substantial user, programming, administration, and networking commands for the most common Linux distributions. Comprehensive but concise, the fifth edition has been updated to cover new features of major Linux distributions. Configuration information for the rapidly growing commercial network services and community update services is one of the subjects covered for the first time. But that's just the beginning. The book covers editors, shells, and LILO and GRUB boot options. There's also coverage of Apache, Samba, Postfix, sendmail, CVS, Subversion, Emacs, vi, sed, gawk, and much more. Everything that system administrators, developers, and power users need to know about Linux is referenced here, and they will turn to this book again and again.

Offers a readable, practical introduction and step-by-step procedural manual for the installation, configuration, and use of SELinux, a kernel module and set of Linux programs developed by the National Security Agency to help protect computers running on Linux. Original. (All users)