

Shell Scripting How To Automate Command Line Tasks Using Bash Scripting And Shell Programming

For system administrators, programmers, and end users, shell command or carefully crafted shell script can save you time and effort, or facilitate consistency and repeatability for a variety of common tasks. This cookbook provides more than 300 practical recipes for using bash, the popular Unix shell that enables you to harness and customize the power of any Unix or Linux system. Ideal for new and experienced users alike—including proficient Windows users and sysadmins—this updated second edition helps you solve a wide range of problems. You'll learn ways to handle input/output, file manipulation, program execution, administrative tasks, and many other challenges. Each recipe includes one or more scripting examples and a discussion of why the solution works. You'll find recipes for problems including: Standard output and input, and executing commands Shell variables, shell logic, and arithmetic Intermediate shell tools and advanced scripting Searching for files with find, locate, and slocate Working with dates and times Creating shell scripts for various end-user tasks Working with tasks that require parsing Writing secure shell scripts Configuring and customizing bash

The Bash Guide for Beginners (Second Edition) discusses concepts useful in the daily life of the serious Bash user. While a basic knowledge of shell usage is required, it

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starts with a discussion of shell building blocks and common practices. Then it presents the grep, awk and sed tools that will later be used to create more interesting examples. The second half of the course is about shell constructs such as loops, conditional tests, functions and traps, and a number of ways to make interactive scripts. All chapters come with examples and exercises that will help you become familiar with the theory. Master the complexities of Bash shell scripting and unlock the power of shell for your enterprise About This Book Identify the high level steps such as verifying user input, using command lines and conditional statements in creating and executing simple shell scripts Create and edit dynamic shell scripts to manage complex and repetitive tasks Learn about scripting in Perl and programming in Python as a BASH scripting alternative with this practical, step-by-step guide Who This Book Is For Mastering Linux Shell Scripting has been written for Linux administrators who want to automate tasks in their daily lives, saving time and effort. You'll need to have command-line experience and be familiar with the tasks that you need to automate. What You Will Learn Use the type command to identify the order of command evaluation Create interactive scripts that prompt for user input Foster menu structures for operators with little command-line experience Develop scripts that dynamically edit web configuration files to produce a new virtual host Write scripts that use AWK to search and reports on log files Draft effective scripts using functions as building blocks, reducing maintenance and build time Make informed choices by comparing different script languages such as Perl and

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Python with BASH In Detail Shell scripting is a quick method to prototype a complex application or a problem by automating tasks when working on Linux-based systems. Using both simple one-line commands and command sequences complex problems can be solved with ease, from text processing to backing up sysadmin tools. In this book, you'll discover everything you need to know to master shell scripting and make informed choices about the elements you employ. Get to grips with the fundamentals of creating and running a script in normal mode, and in debug mode. Learn about various conditional statements' code snippets, and realize the power of repetition and loops in your shell script. Implement functions and edit files using the Stream Editor, script in Perl, program in Python – as well as complete coverage of other scripting languages to ensure you can choose the best tool for your project. Style and approach The book will capture your attention and keep you engaged with the simplicity and clarity of each explanation. Every step is accompanied with screen captures so you can cross-check the results before moving on.

Create and maintain powerful Bash scripts for automation and administration. Key Features Get up and running with Linux shell scripting using real-world examples Leverage command-line techniques and methodologies to automate common yet complex administration tasks A practical guide with exposure to scripting constructs and common scripting patterns Book Description Shell scripts allow us to program commands in chains and have the system execute them as a scripted event, just like

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batch files. This book will start with an overview of Linux and Bash shell scripting, and then quickly deep dive into helping you set up your local environment, before introducing you to tools that are used to write shell scripts. The next set of chapters will focus on helping you understand Linux under the hood and what Bash provides the user. Soon, you will have embarked on your journey along the command line. You will now begin writing actual scripts instead of commands, and will be introduced to practical applications for scripts. The final set of chapters will deep dive into the more advanced topics in shell scripting. These advanced topics will take you from simple scripts to reusable, valuable programs that exist in the real world. The final chapter will leave you with some handy tips and tricks and, as regards the most frequently used commands, a cheat sheet containing the most interesting flags and options will also be provided. After completing this book, you should feel confident about starting your own shell scripting projects, no matter how simple or complex the task previously seemed. We aim to teach you how to script and what to consider, to complement the clear-cut patterns that you can use in your daily scripting challenges. What you will learn

- Understand Linux and Bash basics as well as shell scripting fundamentals
- Learn to write simple shell scripts that interact with Linux operating system
- Build, maintain, and deploy scripts in a Linux environment
- Learn best practices for writing shell scripts
- Avoid common pitfalls associated with Bash scripting
- Gain experience and the right toolset to write your own complex shell scripts

Who this book is for This book targets new and

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existing Linux system administrators, Windows system administrators or developers who are interested in automating administrative tasks. No prior shell scripting experience is needed but in case you do this book will make a pro quickly. Readers should have a basic understanding of the command line.

This book is an exploration of Shell programming, also referred to as Bash Scripting. It begins by guiding you on how to automate the various tasks in UNIX by using the Shell scripts. The book also guides you on the effective steps on how to write the Shell scripts. In UNIX, we should come up with an effective mechanism for management of file systems and software packages. This book guides you on the effective way to do this in Shell. You are also guided on how to use the various UNIX editors such as the Vim editor, nano, and GNOME. You will learn how to use the various shortcuts provided by these text editors, as well as how to navigate within your file opened in the text editor. Structured commands, which are very common in Shell, are discussed in detail. You will learn how to use such statements for decision-making as well as for looping through your program. You are also guided on how to manipulate your text, as well as how to use regular expressions. In some programs, it is good for you to implement a mechanism for accepting user input and then making a decision based on that input. This book clearly guides you on how to do this in Bash scripting. Command line arguments have also been explored in detail. The following topics are discussed in this book: - Automate Tasks with Simple Script Utilities - Creating Shell Scripts - Manage

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Filesystems and Software Packages - Work with nano, KDE, and GNOME editors - Structured Commands, Text Manipulation, and Regular Expressions - Keyboard Input - Command Line Arguments

O'Reilly's bestselling book on Linux's bash shell is at it again. Now that Linux is an established player both as a server and on the desktop Learning the bash Shell has been updated and refreshed to account for all the latest changes. Indeed, this third edition serves as the most valuable guide yet to the bash shell. As any good programmer knows, the first thing users of the Linux operating system come face to face with is the shell the UNIX term for a user interface to the system. In other words, it's what lets you communicate with the computer via the keyboard and display. Mastering the bash shell might sound fairly simple but it isn't. In truth, there are many complexities that need careful explanation, which is just what Learning the bash Shell provides. If you are new to shell programming, the book provides an excellent introduction, covering everything from the most basic to the most advanced features. And if you've been writing shell scripts for years, it offers a great way to find out what the new shell offers. Learning the bash Shell is also full of practical examples of shell commands and programs that will make everyday use of Linux that much easier. With this book, programmers will learn: How to install bash as your login shell The basics of interactive shell use, including UNIX file and directory structures, standard I/O, and background jobs Command line editing, history substitution, and key bindings How to

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customize your shell environment without programming The nuts and bolts of basic shell programming, flow control structures, command-line options and typed variables Process handling, from job control to processes, coroutines and subshells Debugging techniques, such as trace and verbose modes Techniques for implementing system-wide shell customization and features related to system security

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.

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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. Advance your understanding of the Linux command line with this invaluable resource Linux Command Line and Shell Scripting Bible, 4th Edition is the newest installment in the indispensable series known to Linux developers all over the world. Packed with concrete strategies and practical tips, the latest edition includes brand-new content covering: Understanding the Shell Writing Simple Script Utilities Producing Database, Web & Email Scripts Creating Fun Little Shell Scripts Written by accomplished Linux professionals Christine Bresnahan and Richard Blum, Linux Command Line and Shell Scripting Bible, 4th Edition teaches readers the fundamentals and advanced topics

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necessary for a comprehensive understanding of shell scripting in Linux. The book is filled with real-world examples and usable scripts, helping readers navigate the challenging Linux environment with ease and convenience. The book is perfect for anyone who uses Linux at home or in the office and will quickly find a place on every Linux enthusiast's bookshelf.

Learn shell scripting to solve complex shell-related problems and to efficiently automate your day-to-day tasks About This Book Familiarize yourself with the terminal by learning about powerful shell features Automate tasks by writing shell scripts for repetitive work Packed with easy-to-follow, hands-on examples to help you write any type of shell script with confidence Who This Book Is For This book is aimed at administrators and those who have a basic knowledge of shell scripting and who want to learn how to get the most out of writing shell scripts. What You Will Learn Write effective shell scripts easily Perform search operations and manipulate large text data with a single shell command Modularize reusable shell scripts by creating shell libraries Redirect input, output, and errors of a command or script execution to other streams Debug code with different shell debugging techniques to make your scripts bug-free Manage processes, along with the environment variables needed to execute them properly Execute and embed other languages in your scripts Manage creation, deletion, and search operations in files In Detail Shell scripting is a quick method to prototype complex applications or problems. Shell scripts are a collection of commands to automate tasks, usually those for which the user has a repeated need, when working on Linux-based systems. Using simple commands or a combination of them in a shell can solve complex problems easily. This

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book starts with the basics, including essential commands that can be executed on Linux systems to perform tasks within a few nanoseconds. You'll learn to use outputs from commands and transform them to show the data you require. Discover how to write shell scripts easily, execute script files, debug, and handle errors. Next, you'll explore environment variables in shell programming and learn how to customize them and add a new environment. Finally, the book walks you through processes and how these interact with your shell scripts, along with how to use scripts to automate tasks and how to embed other languages and execute them. Style and approach This book is a pragmatic guide to writing efficient shell programs, complete with hands-on examples and tips.

A quick and straightforward approach to writing shell scripts to accomplish different types of tasks on a Linux system. About This Book Understand expressions and variables and how to use them practically Familiarize yourself with the various text filtering tools available in Linux A fast-paced and concise guide that gets you well versed with linux shell scripting. Who This Book Is For This book is for both GNU/Linux users who want to do amazing things with the shell and for advanced users looking for ways to make their lives with the shell more productive. What You Will Learn Get acquainted with the basics of a shell script to serve as a refresher for more advanced topics Learn different ways to create and run a script Discuss the passing and verification of parameters, along with the verification of other items. Understand the different forms of conditions and loops, and go over the sleep command in detail Learn about different ways to handle the reporting of return codes Create an interactive script by reading the keyboard and use subroutines and interrupts Create scripts to perform backups and go over the use of encryption tools and checksums Use wget and curl in scripts to get data

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directly from the Internet In Detail Linux Shell Scripting Bootcamp is all about learning the essentials of script creation, validating parameters, and checking for the existence of files and other items needed by the script. We will use scripts to explore iterative operations using loops and learn different types of loop statements, with their differences. Along with this, we will also create a numbered backup script for backup files. Further, you will get well-versed with how variables work on a Linux system and how they relate to scripts. You'll also learn how to create and call subroutines in a script and create interactive scripts. The most important archive commands, zip and tar, are also discussed for performing backups. Later, you will dive deeper by understanding the use of wget and curl scripts and the use of checksum and file encryption in further chapters. Finally, you will learn how to debug scripts and scripting best practices that will enable you to write a great code every time! By the end of the book, you will be able to write shell scripts that can dig data from the web and process it efficiently. Style and approach This book is all about fast and intensive learning. This means we don't waste time in helping readers get started. The new content is basically about filling in with highly-effective examples to build new things, solving problems in newer and unseen ways, and solving real-world examples.

Experience an in-depth exploration of logical volume management and the use of file managers to manipulate files and directories and the critical concept that, in Linux, everything is a file and some fun and interesting uses of the fact that everything is a file. This book builds upon the skills you learned in Volume 1 of this course and it depends upon the virtual network and virtual machine created there. More experienced Linux users can begin with this volume and download the assigned script that will set up the VM for the start of Volume 2. Instructions

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with the script will provide specifications for configuration of the virtual network and the virtual machine. Refer to the volume overviews in the book's introduction to select the volume of this course most appropriate for your current skill level. You'll see how to manage and monitor running processes, discover the power of the special filesystems, monitor and tune the kernel while it is running – without a reboot. You'll then turn to regular expressions and the power that using them for pattern matching can bring to the command line, and learn to manage printers and printing from the command line and unlock the secrets of the hardware on which your Linux operating system is running. Experiment with command line programming and how to automate various administrative tasks, networking, and the many services that are required in a Linux system. Use the logs and journals to look for clues to problems and confirmation that things are working correctly, and learn to enhance the security of your Linux systems and how to perform easy local and remote backups. What You Will Learn Understand Logical Volume Management, using file managers, and special filesystems Exploit everything in a file Perform command line programming and basic automation Configure printers and manage other hardware Manage system services with systemd, user management, security, and local and remote backups using simple and freely available tools Who This Book Is For Anyone who wants to continue to learn Linux in depth as an advanced user and system administrator at the command line while using the GUI desktop to leverage productivity.

Unleash the power of shell scripts to solve real-world problems by breaking through the practice of writing tedious code About This Book Learn how to efficiently and effectively build shell scripts and develop advanced applications with this handy book Develop high quality and efficient solutions by writing professional and real-world scripts, and debug scripts by checking

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and shell tracing A step-by-step tutorial to automate routine tasks by developing scripts from a basic level to very advanced functionality Who This Book Is For This book is ideal for those who are proficient at working with Linux and who want to learn about shell scripting to improve their efficiency and practical skills. By the end of this book, you will be able to confidently use your own shell scripts in the real world. What You Will Learn Familiarize yourself with the various text filtering tools available in Linux Combine the fundamental text and file processing commands to process data and automate repetitive tasks Understand expressions and variables and how to use them practically Automate decision-making and save a lot of time and effort of revisiting code Get to grips with advanced functionality such as using traps and signals and using dialogs to develop screens Start up a system and customize a Linux system Take an in-depth look at regular expressions and pattern matching to understand the capabilities of scripting In Detail Linux is the one of the most powerful and universally adopted OSes. Shell is a program that gives the user direct interaction with the operating system. Scripts are collections of commands that are stored in a file. The shell can read this file and act on the commands as if they were typed on the keyboard. Shell scripting is used to automate day-to-day administration, and for testing or product development tasks. This book covers Bash, GNU Bourne Again SHell, preparing you to work in the exciting world of Linux shell scripting. We start with an introduction to the Shell environment and explain basic commands used in Shell. Next we move on to check, kill, and control the execution of processes in Linux OS. Further, we teach you about the filter tools available in Linux and explain standard output and standard errors devices. Then we will ensure you understand Shell's interpretation of commands and get a firmer grasp so you use them in practice. Next, you'll experience some

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real-world essentials such as debugging and perform Shell arithmetic fluently. Then you'll take a step ahead and learn new and advanced topics in Shell scripting, such as starting up a system and customizing a Linux system. Finally, you'll get to understand the capabilities of scripting and learn about Grep, Stream Editor, and Awk. Style and approach This practical book will go from the very basics of shell scripting to complex, customized automation. The idea behind this book is to be as practical as possible and give you the look and feel of what real-world scripting is like.

Reveals and illustrates the awesome power and flexibility of the command line, and the design and usage philosophies that support those traits. This understanding of how to extract the most from the Linux command line can help you become a better SysAdmin. Understand why many things in the Linux and Unix worlds are done as they are, and how to apply the Linux Philosophy to working as a SysAdmin. The original Unix/Linux Philosophy presented foundational and functional tenets - rules, guidelines, and procedural methods - that worked well. However, it was intended for the developers of those operating systems. Although System Administrators could apply many of the tenets to their daily work, many important tenets were missing. Over the years that David Both has been working with Linux and Unix, he has formulated his own philosophy – one which applies more directly to the everyday life of the System Administrator. This book defines a philosophy, and then illuminates the practical aspects of that philosophy with real-world experiments you can perform. Inspired by David's real mentors, and dedicated to them, The Linux Philosophy for System Administrators is a mentor to SysAdmins everywhere; remember - "If you fail you learn." What You Will Learn Apply the Linux philosophy to working as a SysAdmin Unlock the power of the knowledge you

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already have Fully understand and access the vast power of the command line Review the power of Linux as a function of the philosophies that built it Who This Book Is For If you want to learn the secrets that make the best Linux SysAdmins powerful far beyond that of mere mortals; if you want to understand the concepts that unlock those secrets; if you want to be the SysAdmin that everyone else turns to when the bytes hit the fan – then this book is for you. Linux has been one of the widely adopted and popular OS when it comes to leveraging scripting and automating common tasks. With this book, readers will get to grips with shell scripting, automating repetitive tasks, text processing, regular expressions, pattern matching, backup and restore, and much more. The end goal of this book is to get ...

UNIX expert Randal K. Michael guides you through every detail of writing shell scripts to automate specific tasks. Each chapter begins with a typical, everyday UNIX challenge, then shows you how to take basic syntax and turn it into a shell scripting solution. Covering Bash, Bourne, and Korn shell scripting, this updated edition provides complete shell scripts plus detailed descriptions of each part. UNIX programmers and system administrators can tailor these to build tools that monitor for specific system events and situations, building solid UNIX shell scripting skills to solve real-world system administration problems.

Talk directly to your system for a faster workflow with automation capability Linux Command Line and Shell Scripting Bible is your essential Linux guide. With detailed instruction and abundant examples, this book teaches you how to bypass the graphical interface and communicate directly with your computer, saving time and expanding capability. This third edition incorporates thirty pages of new functional examples that are fully updated to align with the latest Linux features. Beginning with command line fundamentals, the book moves into

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shell scripting and shows you the practical application of commands in automating frequently performed functions. This guide includes useful tutorials, and a desk reference value of numerous examples. The Linux command line allows you to type specific shell commands directly into the system to manipulate files and query system resources. Command line statements can be combined into short programs called shell scripts, a practice increasing in popularity due to its usefulness in automation. This book is a complete guide providing detailed instruction and expert advice working within this aspect of Linux. Write simple script utilities to automate tasks Understand the shell, and create shell scripts Produce database, e-mail, and web scripts Study scripting examples ranging from basic to advanced Whether used as a tutorial or as a quick reference, this book contains information that every Linux user should know. Why not learn to use the system to its utmost capability? Linux is a robust system with tremendous potential, and Linux Command Line and Shell Scripting Bible opens the door to new possibilities.

Shell scripts are an efficient way to interact with your machine and manage your files and system operations. With just a few lines of code, your computer will do exactly what you want it to do. But you can also use shell scripts for many other essential (and not-so-essential) tasks. This second edition of *Wicked Cool Shell Scripts* offers a collection of useful, customizable, and fun shell scripts for solving common problems and personalizing your computing environment. Each chapter contains ready-to-use scripts and explanations of how they work, why you'd

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want to use them, and suggestions for changing and expanding them. You'll find a mix of classic favorites, like a disk backup utility that keeps your files safe when your system crashes, a password manager, a weather tracker, and several games, as well as 23 brand-new scripts, including: – ZIP code lookup tool that reports the city and state – Bitcoin address information retriever – suite of tools for working with cloud services like Dropbox and iCloud – for renaming and applying commands to files in bulk – processing and editing tools Whether you want to save time managing your system or just find new ways to goof off, these scripts are wicked cool!

Master the complexities of Bash shell scripting and unlock the power of shell for your enterprise About This Book Identify high-level steps such as verifying user input Using the command line and conditional statements in creating/executing simple shell scripts Create and edit dynamic shell scripts to manage complex and repetitive tasks Leverage the command-line to bypass GUI and automate common tasks Who This Book Is For If you are a Linux administrator or a system administrator and are interested in automating tasks in your daily lives, saving time and effort, this book is for you. Basic shell scripting and command-line experience will be required. Familiarity with the tasks you need to automate will be helpful. What You Will Learn Make, execute, and debug your first Bash script

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Create interactive scripts that prompt for user input Foster menu structures for operators with little command-line experience Develop scripts that dynamically edit web configuration files to produce a new virtual host Write scripts that use AWK to search and reports on log files Draft effective scripts using functions as building blocks, reducing maintenance and build time Make informed choices by comparing different script languages such as Python with BASH In Detail In this book, you'll discover everything you need to know to master shell scripting and make informed choices about the elements you employ. Grab your favorite editor and start writing your best Bash scripts step by step. Get to grips with the fundamentals of creating and running a script in normal mode, and in debug mode. Learn about various conditional statements' code snippets, and realize the power of repetition and loops in your shell script. You will also learn to write complex shell scripts. This book will also deep dive into file system administration, directories, and system administration like networking, process management, user authentications, and package installation and regular expressions. Towards the end of the book, you will learn how to use Python as a BASH Scripting alternative. By the end of this book, you will know shell scripts at the snap of your fingers and will be able to automate and communicate with your system with keyboard expressions. Style and approach The book will capture

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your attention and keep you engaged with the simplicity and clarity of each explanation. Every step is accompanied by screenshots so you can cross-check the results before moving on. Downloading the e ...

This book contains simple and advanced scripting using both ESX and Linux commands to provide awesome virtual tools to automate administrative tasks of ESX Server. This book will cover the native tools that VMware provides with ESX Server. It will then discuss in detail the different scripting API's and how they can be leveraged to provide some very useful, practical and time saving tools to manage a virtual infrastructure. From virtual server provisioning to backups and everything in between, this book is a one stop shop for virtual tools. * An essential guide to virtualisation using both Linux and ESX commands * The companion Web site for book provides dozens for working scripts and tools presented in the book * Maximise VMware's powerful scripting language to automate time consuming administrative tasks

A compendium of shell scripting recipes that can immediately be used, adjusted, and applied The shell is the primary way of communicating with the Unix and Linux systems, providing a direct way to program by automating simple-to-intermediate tasks. With this book, Linux expert Steve Parker shares a collection of shell scripting recipes that can be used as is or easily modified for a variety of

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environments or situations. The book covers shell programming, with a focus on Linux and the Bash shell; it provides credible, real-world relevance, as well as providing the flexible tools to get started immediately. Shares a collection of helpful shell scripting recipes that can immediately be used for various of real-world challenges Features recipes for system tools, shell features, and systems administration Provides a host of plug and play recipes for to immediately apply and easily modify so the wheel doesn't have to be reinvented with each challenge faced Come out of your shell and dive into this collection of tried and tested shell scripting recipes that you can start using right away!

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-

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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" Shell Scripting

How to Automate Command Line Tasks Using Bash Scripting and Shell Programming

CreateSpace

Learn how to write shell script effectively with Bash, to quickly and easily write powerful scripts to manage processes, automate tasks, and to redirect and filter program input and output in useful and novel ways. Key Features Demystify the Bash command line Write shell scripts safely and effectively Speed up and automate your daily work

Book Description Bash and shell script programming is central to using Linux, but it has many peculiar properties that are hard to understand and unfamiliar to many programmers, with a lot of misleading and even risky information online. Bash Quick Start Guide tackles these problems

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head on, and shows you the best practices of shell script programming. This book teaches effective shell script programming with Bash, and is ideal for people who may have used its command line but never really learned it in depth. This book will show you how even simple programming constructs in the shell can speed up and automate any kind of daily command-line work. For people who need to use the command line regularly in their daily work, this book provides practical advice for using the command-line shell beyond merely typing or copy-pasting commands into the shell. Readers will learn techniques suitable for automating processes and controlling processes, on both servers and workstations, whether for single command lines or long and complex scripts. The book even includes information on configuring your own shell environment to suit your workflow, and provides a running start for interpreting Bash scripts written by others. What you will learn Understand where the Bash shell fits in the system administration and programming worlds Use the interactive Bash command line effectively Get to grips with the structure of a Bash command line Master pattern-matching and transforming text with Bash Filter and redirect program input and output Write shell scripts safely and effectively Who this book is for People who use the command line on Unix and Linux servers already, but don't write primarily in Bash. This book is ideal for people who've been using a scripting language

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such as Python, JavaScript or PHP, and would like to understand and use Bash more effectively.

Develop a solid understanding of the important command-line tools and utilities in Linux Key Features Delve into the fundamentals of Linux Explore and work with virtualization, command lines, and Bash shell scripts Use special file permission flags such as setuid and setgid Book Description Linux is a Unix-like operating system assembled under the model of free and open source software development and distribution. Fundamentals of Linux will help you learn all the essentials of the Linux command line required to get you started. The book will start by teaching you how to work with virtualization software and install CentOS 7 Linux as a VM. Then, you will get to grips with the workings of various command line operations, such as cursor movement, commands, options, and arguments. As you make your way through the chapters, the book will not only focus on the most essential Linux commands but also give an introduction to Bash shell scripting. Finally, you will explore advanced topics, such as networking and troubleshooting your system, and you will get familiar with the advanced file permissions: ACL, setuid, and setgid. Fundamentals of Linux includes real-world tasks, use cases, and problems that, as a system administrator, you might encounter in your day-to-day activities. What you will

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learn Explore basic and advanced command-line concepts Install Linux, work with VirtualBox, and install CentOS 7 in VirtualBox Work with the command line efficiently and learn how to navigate through the Linux filesystem Create file and user group permissions and edit files Use Sticky bit to secure your Linux filesystem Define and remove ACL from Linux files Who this book is for Fundamentals of Linux is for individuals looking to work as a Linux system administrator.

Master the complexities of Bash shell scripting and unlock the power of shell for your enterprise Key Features Identify high-level steps such as verifying user input Using the command line and conditional statements in creating/executing simple shell scripts Create and edit dynamic shell scripts to manage complex and repetitive tasks Leverage the command-line to bypass GUI and automate common tasks Book Description In this book, you'll discover everything you need to know to master shell scripting and make informed choices about the elements you employ. Grab your favorite editor and start writing your best Bash scripts step by step. Get to grips with the fundamentals of creating and running a script in normal mode, and in debug mode. Learn about various conditional statements' code snippets, and realize the power of repetition and loops in your shell script. You will also learn to write complex shell scripts. This book will also deep dive into file system administration, directories, and system administration like networking, process management, user authentications, and package installation and regular expressions. Towards the end of the book, you will learn how to use Python as a BASH Scripting alternative. By the end of this book, you will know shell scripts at

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the snap of your fingers and will be able to automate and communicate with your system with keyboard expressions. What you will learn Make, execute, and debug your first Bash script Create interactive scripts that prompt for user input Foster menu structures for operators with little command-line experience Develop scripts that dynamically edit web configuration files to produce a new virtual host Write scripts that use AWK to search and reports on log files Draft effective scripts using functions as building blocks, reducing maintenance and build time Make informed choices by comparing different script languages such as Python with BASH Who this book is for If you are a Linux administrator or a system administrator and are interested in automating tasks in your daily lives, saving time and effort, this book is for you. Basic shell scripting and command-line experience will be required. Familiarity with the tasks you need to automate will be helpful.

Save when you buy this two book bundle - Linux for Beginners AND Command Line Kung FuLinux for Beginners information:If you want to learn how to use Linux, but don't know where to start read on. Knowing where to start when learning a new skill can be a challenge, especially when the topic seems so vast. There can be so much information available that you can't even decide where to start. Or worse, you start down the path of learning and quickly discover too many concepts, commands, and nuances that aren't explained. This kind of experience is frustrating and leaves you with more questions than answers. Linux for Beginners doesn't make any assumptions about your background or knowledge of Linux. You need no prior knowledge to benefit from this book. You will be guided step by step using a logical and systematic approach. As new concepts, commands, or jargon are encountered they are explained in plain language, making it easy for anyone to understand. Here is what you will

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learn by reading Linux for Beginners: How to get access to a Linux server if you don't already. What a Linux distribution is and which one to choose. What software is needed to connect to Linux from Mac and Windows computers. Screenshots included. What SSH is and how to use it, including creating and using SSH keys. The file system layout of Linux systems and where to find programs, configurations, and documentation. The basic Linux commands you'll use most often. Creating, renaming, moving, and deleting directories. Listing, reading, creating, editing, copying, and deleting files. Exactly how permissions work and how to decipher the most cryptic Linux permissions with ease. How to use the nano, vi, and emacs editors. Two methods to search for files and directories. How to compare the contents of files. What pipes are, why they are useful, and how to use them. How and why to redirect input and output from applications. How to customize your shell prompt. How to be efficient at the command line by using aliases, tab completion, and your shell history. How to schedule and automate jobs using cron. How to switch users and run processes as others. Where to go for even more in-depth coverage on each topic. Command Line Kung Fu information: Become a Linux Ninja with Command Line Kung Fu! Do you think you have to lock yourself in a basement reading cryptic man pages for months on end in order to have ninja like command line skills? In reality, if you had someone share their most powerful command line tips, tricks, and patterns you'd save yourself a lot of time and frustration. What if you could look over the shoulder of a good friend that just happened to be a command line guru? What if they not only showed you the commands they were using, but why they were using them and exactly how they worked? And what if that friend took the time to write all of it down so you can refer to it whenever you liked? Well, a friend did just that. Command Line Kung Fu is packed with dozens of tips and

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over 100 practical real-world examples. You won't find theoretical examples in this book. The examples demonstrate how to solve actual problems and accomplish worthwhile goals. The tactics are easy to find, too. Each chapter covers a specific topic and groups related tips and examples together. For example, if you need help extracting text from a file look in the "Text Processing and Manipulation" chapter. Also, a comprehensive index is included. If you want to find every example where a given command is used -- even if it's not the main subject of the tip -- look in the index. It will list every single place in the book where that command appears.

Portable shell scripting is the future of modern Linux, OS X, and Unix command-line access. *Beginning Portable Shell Scripting: From Novice to Professional* teaches shell scripting by using the common core of most shells and expands those principles to all of scripting. You will learn about portable scripting and how to use the same syntax and design principles for all shells. You'll discover about the interaction between shells and other scripting languages like Ruby and Python, and everything you learn will be shown in context for Linux, OS X, bash, and AppleScript. What you'll learn This book will prime you on not just shell scripting, but also the modern context of portable shell scripting. You will learn The core Linux/OS X shell constructs from a portability point of view How to write scripts that write other scripts, and how to write macros and debug them How to write and design shell script portably from the ground up How to use programmable utilities and their inherent portability to your advantage, while pinpointing potential traps Pulling everything together, how to engineer scripts that play well with Python and Ruby, and even run on embedded systems Who this book is for This book is for system administrators, programmers, and testers working across Linux, OS X, and the Unix command line. Table of Contents Introduction to Shell Scripting Patterns and Regular Expressions Basic

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Shell Scripting Core Shell Features Explained Shells Within Shells Invocation and Execution Shell Language Portability Utility Portability Bringing It All Together Shell Script Design Mixing and Matching

Provides readers with end-to-end shell scripts that can be used to automate repetitive tasks and solve real-world system administration problems Targets the specific command structure for four popular UNIX systems: Solaris, Linux, AIX, and HP-UX Illustrates dozens of example tasks, presenting the proper command syntax and analyzing the performance gain or loss using various control structure techniques Web site includes all the shell scripts used in the book

The second edition of this best-selling Python book (over 500,000 copies sold!) uses Python 3 to teach even the technically uninclined how to write programs that do in minutes what would take hours to do by hand. There is no prior programming experience required and the book is loved by liberal arts majors and geeks alike. If you've ever spent hours renaming files or updating hundreds of spreadsheet cells, you know how tedious tasks like these can be. But what if you could have your computer do them for you? In this fully revised second edition of the best-selling classic Automate the Boring Stuff with Python, you'll learn how to use Python to write programs that do in minutes what would take you hours to do by hand--no prior programming experience required. You'll learn the basics of Python and explore Python's rich library of modules for performing specific tasks, like scraping data off websites, reading PDF and Word documents, and automating clicking and typing tasks. The second edition of this international fan favorite includes a brand-new chapter on input validation, as well as tutorials on automating Gmail and Google Sheets, plus tips on automatically updating CSV files. You'll

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learn how to create programs that effortlessly perform useful feats of automation to:

- Search for text in a file or across multiple files
- Create, update, move, and rename files and folders
- Search the Web and download online content
- Update and format data in Excel spreadsheets of any size
- Split, merge, watermark, and encrypt PDFs
- Send email responses and text notifications
- Fill out online forms

Step-by-step instructions walk you through each program, and updated practice projects at the end of each chapter challenge you to improve those programs and use your newfound skills to automate similar tasks. Don't spend your time doing work a well-trained monkey could do. Even if you've never written a line of code, you can make your computer do the grunt work. Learn how in Automate the Boring Stuff with Python, 2nd Edition.

Learn how to use bash scripting to automate common tasks on Red Hat Enterprise Linux (RHEL)?one of the most popular Linux distributions. This course covers the foundations of creating and debugging bash scripts, including scripts that accept input via positional arguments, pipes, and file parsing. Plus, learn how to get data out of bash scripts and set up conditional and looping code blocks. Grant also solves some real-world problems, using bash to monitor user space and CPU usage. Note: This course also helps you study to pass the Red Hat Certified Engineer (RHCE) exam?the benchmark certification for Red Hat Enterprise Linux. The author focuses solely on how UNIX and Linux system administrators can use well-known tools to automate tasks, even across multiple systems.

Shell scripting skills never go out of style. It's the shell that unlocks the real potential of Unix. Shell scripting is essential for Unix users and system administrators-a way to quickly harness and customize the full power of any Unix system. With shell scripts, you can combine the

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fundamental Unix text and file processing commands to crunch data and automate repetitive tasks. But beneath this simple promise lies a treacherous ocean of variations in Unix commands and standards. Classic Shell Scripting is written to help you reliably navigate these tricky waters. Writing shell scripts requires more than just a knowledge of the shell language, it also requires familiarity with the individual Unix programs: why each one is there, how to use them by themselves, and in combination with the other programs. The authors are intimately familiar with the tips and tricks that can be used to create excellent scripts, as well as the traps that can make your best effort a bad shell script. With Classic Shell Scripting you'll avoid hours of wasted effort. You'll learn not only write useful shell scripts, but how to do it properly and portably. The ability to program and customize the shell quickly, reliably, and portably to get the best out of any individual system is an important skill for anyone operating and maintaining Unix or Linux systems. Classic Shell Scripting gives you everything you need to master these essential skills.

Covering all major platforms-Linux, Unix, Mac OS X, and Windows-this guide shows programmers and power users how to customize an operating system, automate commands, and simplify administration tasks using shell scripts Offers complete shell-scripting instructions, robust code examples, and full scripts for OS customization Covers shells as a user interface, basic scripting techniques, script editing and debugging, graphing data, and simplifying administrative tasks In addition to Unix and Linux scripting, the book covers the latest Windows scripting techniques and offers a complete tutorial on Mac OS X scripting, including detailed coverage of mobile file systems, legacy applications, Mac text editors, video captures, and the Mac OS X Open Scripting Architecture

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Python is an ideal language for solving problems, especially in Linux and Unix networks. With this pragmatic book, administrators can review various tasks that often occur in the management of these systems, and learn how Python can provide a more efficient and less painful way to handle them. Each chapter in Python for Unix and Linux System Administration presents a particular administrative issue, such as concurrency or data backup, and presents Python solutions through hands-on examples. Once you finish this book, you'll be able to develop your own set of command-line utilities with Python to tackle a wide range of problems. Discover how this language can help you: Read text files and extract information Run tasks concurrently using the threading and forking options Get information from one process to another using network facilities Create clickable GUIs to handle large and complex utilities Monitor large clusters of machines by interacting with SNMP programmatically Master the IPython Interactive Python shell to replace or augment Bash, Korn, or Z-Shell Integrate Cloud Computing into your infrastructure, and learn to write a Google App Engine Application Solve unique data backup challenges with customized scripts Interact with MySQL, SQLite, Oracle, Postgres, Django ORM, and SQLAlchemy With this book, you'll learn how to package and deploy your Python applications and libraries, and write code that runs equally well on multiple Unix platforms. You'll also learn about several Python-related technologies that will make your life much easier.

Master the complexities of Bash shell scripting and unlock the power of shell for your enterprise Key Features Identify high-level steps such as verifying user input Using the command line and conditional statements in creating/executing simple shell scripts Create and edit dynamic shell scripts to manage complex and repetitive tasks Leverage the command-line

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to bypass GUI and automate common tasks Book Description In this book, you'll discover everything you need to know to master shell scripting and make informed choices about the elements you employ. Grab your favorite editor and start writing your best Bash scripts step by step. Get to grips with the fundamentals of creating and running a script in normal mode, and in debug mode. Learn about various conditional statements' code snippets, and realize the power of repetition and loops in your shell script. You will also learn to write complex shell scripts. This book will also deep dive into file system administration, directories, and system administration like networking, process management, user authentications, and package installation and regular expressions. Towards the end of the book, you will learn how to use Python as a BASH Scripting alternative. By the end of this book, you will know shell scripts at the snap of your fingers and will be able to automate and communicate with your system with keyboard expressions. What you will learn Make, execute, and debug your first Bash script Create interactive scripts that prompt for user input Foster menu structures for operators with little command-line experience Develop scripts that dynamically edit web configuration files to produce a new virtual host Write scripts that use AWK to search and reports on log files Draft effective scripts using functions as building blocks, reducing maintenance and build time Make informed choices by comparing different script languages such as Python with BASH Who this book is for If you are a Linux administrator or a system administrator and are interested in automating tasks in your daily lives, saving time and effort, this book is for you. Basic shell scripting and command-line experience will be required. Familiarity with the tasks you need to automate will be helpful.

System administrators need libraries of solutions that are ingenious but understandable. They

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don't want to reinvent the wheel, but they don't want to reinvent filesystem management either! Expert Shell Scripting is the ultimate resource for all working Linux, Unix, and OS X system administrators who would like to have short, succinct, and powerful shell implementations of tricky system scripting tasks. Automating small to medium system management tasks Analyzing system data and editing configuration files Scripting Linux, Unix, and OS X applications using bash, ksh, et al.

Shell Scripting Made Easy If you want to learn how to write shell scripts like a pro, solve real-world problems, or automate repetitive and complex tasks, read on. Hello. My name is Jason Cannon and I'm the author of Linux for Beginners, Python Programming for Beginners, and an instructor to thousands of satisfied students. I started my IT career in the late 1990's as a Unix and Linux System Engineer and I'll be sharing my real-world shell scripting and bash programming experience with you throughout this book. By the end of this book you will be able to create shell scripts with ease. You'll learn how to take tedious and repetitive tasks and turn them into programs that will save you time and simplify your life on Linux, Unix, or MAC systems. Here is what you will get and learn by reading this Shell Scripting book: A step-by-step process of writing shell scripts that solve real-world problems. The #1 thing you must do every time you create a shell script. How to quickly find and fix the most shell scripting errors. How to accept input from a user and then make decisions on that input. How to accept and process command line arguments. What special variables are available, how to use them in your shell scripts, and when to do so. A shell script creation check list -- You'll never have to guess what to include in each of your shell scripts again. Just use this simple check list. A shell script template (boilerplate). Use this format for each of your shell scripts. It shows exactly

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what to include and where everything goes. Eliminate guesswork! Practice exercises with solutions so you can start using what you learn right away. Real-world examples of shell scripts from my personal collection. A download that contains the scripts used in the book and lessons. You'll be able to look at and experiment with everything you're learning. Learn to Program Using Any Shell Scripting Language What you learn in this book can be applied to any shell, however the focus is on the bash shell and you'll learn some really advanced bash features. Again, whether you're using bash, bourne (sh), KornShell (ksh), C shell (csh), Z shell (zsh), or even the tcsh shell, you'll be able to put what you learn in this book to good use. Perfect for Linux, Unix, Mac and More! Also, you'll be able to use these scripts on any Linux environment including Ubuntu, Debian, Linux Mint, RedHat, Fedora, OpenSUSE, Slackware, Kali Linux and more. You're scripts will even run on other operating systems such as Apple's Mac OS X, Oracle's Solaris, IBM's AIX, HP's HP-UX, FreeBSD, NetBSD, and OpenBSD. Scroll up, click the Buy Now With 1 Click button and get started learning Linux today! This book is written in cookbook style and it offers learning through recipes with examples and illustrations. Each recipe contains step-by-step instructions about everything necessary to execute a particular task. The book is designed so that you can read it from start to end for beginner's or just open up any chapter and start following the recipes as a reference for advanced users. If you are a beginner or an intermediate user who wants to master the skill of quickly writing scripts to perform various tasks without reading the entire man pages, this book is for you. You can start writing scripts and one-liners by simply looking at the similar recipe and its descriptions without any working knowledge of shell scripting or Linux. Intermediate/advanced users as well as system administrators/ developers and programmers

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can use this book as a reference when they face problems while coding.

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