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# Mastering Proxmox Second Edition

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*Mastering Proxmox Second Edition*

2021-03-21

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## RANDY SNYDER

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DNS and BIND on IPv6 Packt Publishing Ltd

Install and configure a pfSense router/firewall, and become a pfSense expert in the process. Key Features You can always do more to secure your software – so extend and customize your pfSense firewall Build a high availability security system that’s fault-tolerant – and capable of blocking potential threats Put the principles of better security into practice by implementing examples provided in the text Book Description pfSense has the same reliability and stability as even the most popular commercial firewall offerings on the market – but, like the very best open-source software, it doesn’t limit you. You’re in control – you can exploit and customize pfSense around your security needs. Mastering pfSense - Second Edition, covers features that have long been part of pfSense such as captive portal, VLANs, traffic shaping, VPNs, load balancing, Common Address Redundancy Protocol (CARP), multi-WAN, and routing. It also covers features that have been added with the release of 2.4, such as support for ZFS partitions and OpenVPN 2.4. This book takes into account the fact that, in order to support increased cryptographic loads, pfSense version 2.5 will require a CPU that supports AES-NI. The second edition of this book places more of an emphasis on the practical side of utilizing pfSense than the previous edition, and, as a result, more examples are provided which show in step-by-step fashion how to implement many features. What you will learn Configure pfSense services such as DHCP, Dynamic DNS, captive portal, DNS, NTP and SNMP Set up a managed switch to work with VLANs Use pfSense to allow, block and deny traffic, and to implement Network Address Translation (NAT) Make use of the traffic shaper to lower and raise the priority

of certain types of traffic Set up and connect to a VPN tunnel with pfSense Incorporate redundancy and high availability by utilizing load balancing and the Common Address Redundancy Protocol (CARP) Explore diagnostic tools in pfSense to solve network problems Who this book is for This book is for those with at least an intermediate understanding of networking. Prior knowledge of pfSense would be helpful but is not required. Those who have the resources to set up a pfSense firewall, either in a real or virtual environment, will especially benefit, as they will be able to follow along with the examples in the book.

*Mastering Ethereum* Packt Publishing Ltd

Web Penetration Testing with Kali Linux contains various penetration testing methods using BackTrack that will be used by the reader. It contains clear step-by-step instructions with lot of screenshots. It is written in an easy to understand language which will further simplify the understanding for the user."Web Penetration Testing with Kali Linux" is ideal for anyone who is interested in learning how to become a penetration tester. It will also help the users who are new to Kali Linux and want to learn the features and differences in Kali versus Backtrack, and seasoned penetration testers who may need a refresher or reference on new tools and techniques. Basic familiarity with web-based programming languages such as PHP, JavaScript and MySQL will also prove helpful.

*Linux Administration Cookbook* Packt Publishing Ltd

Unleash the power of Proxmox VE by setting up a dedicated virtual environment to serve both containers and virtual machines About This Book Create virtual machines and containers from the comfort of your workstation using Proxmox VE's web-based management interface Maximize performance, security, and the quality of virtual services by tailoring container and virtual machine configurations based on established best practices Put

theory to practice by deploying virtual servers that promise portability, modularity, flexibility, security, and quality of service at any scale Who This Book Is For This book is intended for server and system administrators and engineers who are eager to take advantage of the potential of virtual machines and containers to manage servers more efficiently and make the best use of resources, from energy consumption to hardware utilization and physical real estate What You Will Learn Install and configure Proxmox VE Create new virtual machines and containers Import container templates and virtual appliances Optimize virtual machine performance for common use cases Apply the latest security patches to a Proxmox VE host Contrast PVE virtual machines and containers to recognize their respective use cases Secure virtual machines and containers Assess the benefits of virtualization on budgets, server real estate, maintenance, and management time In Detail Proxmox VE 4.1 provides an open source, enterprise virtualization platform on which to host virtual servers as either virtual machines or containers. This book will support your practice of the requisite skills to successfully create, tailor, and deploy virtual machines and containers with Proxmox VE 4.1. Following a survey of PVE's features and characteristics, this book will contrast containers with virtual machines and establish cases for both. It walks through the installation of Proxmox VE, explores the creation of containers and virtual machines, and suggests best practices for virtual disk creation, network configuration, and Proxmox VE host and guest security. Throughout the book, you will navigate the Proxmox VE 4.1 web interface and explore options for command-line management Style and approach This book is a practical exploration of the different processes and procedures, which are essential in beginning your journey to fluent creation and optimization of effective containers and virtual machines.

*Cyber Operations* "O'Reilly Media, Inc."

Send and receive messages with the MQTT protocol for your IoT solutions. About This Book Make your connected devices less prone to attackers by understanding practical security mechanisms Dive deep into one of IoT's extremely lightweight machines to enable connectivity protocol with some real-world examples Learn to take advantage of the features included in MQTT for IoT and Machine-to-Machine communications with complete real-life examples Who This Book Is For This book is a great resource for developers who want to learn more about the MQTT protocol to apply it to their individual IoT projects. Prior knowledge of working with IoT devices is essential. What You Will Learn Understand how MQTTv3.1 and v3.1.1 works in detail Install and secure a Mosquitto MQTT broker by following best practices Design and develop IoT solutions combined with mobile and web apps that use MQTT messages to communicate Explore the features included in MQTT for IoT and Machine-to-Machine communications Publish and receive MQTT messages with Python, Java, Swift, JavaScript, and Node.js Implement the security best practices while setting up the MQTT Mosquitto broker In Detail This step-by-step guide will help you gain a deep understanding of the lightweight MQTT protocol. We'll begin with the specific vocabulary of MQTT and its working modes, followed by installing a Mosquitto MQTT broker. Then, you will use best practices to secure the MQTT Mosquitto broker to ensure that only authorized clients are able to publish and receive messages. Once you have secured the broker with the appropriate configuration, you will develop a solution that controls a drone with Python. Further on, you will use Python on a Raspberry Pi 3 board to process commands and Python on Intel Boards (Joule, Edison and Galileo). You will then connect to the MQTT broker, subscribe to topics, send messages, and receive messages in Python. You will also develop a solution that interacts with sensors in Java by working with MQTT messages. Moving forward, you will work with an asynchronous API with callbacks to make the sensors interact with MQTT messages. Following the same process, you will develop an iOS app with Swift 3, build a website that uses WebSockets to connect to the MQTT broker, and control home automation devices with HTML5, JavaScript code, Node.js and MQTT messages Style and approach This step-by-step guide describes the MQTT protocol for your IoT projects

**Industrial Cybersecurity** Packt Publishing Ltd

Your one-step guide to understanding industrial cyber security, its control systems, and its operations. About This Book Learn about endpoint protection such as anti-malware implementation, updating, monitoring, and sanitizing user workloads and mobile devices Filled with practical examples to help you secure critical infrastructure systems efficiently A step-by-step guide that will teach you the techniques and methodologies of building robust infrastructure systems Who This Book Is For If you are a security professional and want to ensure a robust environment for critical infrastructure systems, this book is for you. IT professionals interested in getting into the cyber security domain or who are looking at gaining industrial cyber security certifications will also find this book useful. What You Will Learn Understand industrial cybersecurity, its control systems and operations Design security-oriented architectures, network segmentation, and security support services Configure event monitoring systems, anti-malware applications, and endpoint security Gain knowledge of ICS risks, threat detection, and access management Learn about patch management and life cycle management Secure your industrial control systems from design through retirement In Detail With industries expanding, cyber attacks have increased significantly. Understanding your control system's vulnerabilities and learning techniques to defend critical infrastructure systems from cyber threats is increasingly important. With the help of real-world use cases, this book will teach you the methodologies and security measures necessary to protect critical infrastructure systems and will get you up to speed with identifying unique challenges. Industrial cybersecurity begins by introducing Industrial Control System (ICS) technology, including ICS architectures, communication media, and protocols. This is followed by a presentation on ICS (in) security. After presenting an ICS-related attack scenario, securing of the ICS is discussed, including topics such as network segmentation, defense-in-depth strategies, and protective solutions. Along with practical examples for protecting industrial control systems, this book details security assessments, risk management, and security program development. It also covers essential cybersecurity aspects, such as threat detection and access management. Topics related to endpoint hardening such as monitoring, updating, and anti-malware implementations are also discussed.

Style and approach A step-by-step guide to implement Industrial Cyber Security effectively.

**Mastering Pfsense** Packt Publishing Ltd

Successfully scrape data from any website with the power of Python 3.x About This Book A hands-on guide to web scraping using Python with solutions to real-world problems Create a number of different web scrapers in Python to extract information This book includes practical examples on using the popular and well-maintained libraries in Python for your web scraping needs Who This Book Is For This book is aimed at developers who want to use web scraping for legitimate purposes. Prior programming experience with Python would be useful but not essential. Anyone with general knowledge of programming languages should be able to pick up the book and understand the principals involved. What You Will Learn Extract data from web pages with simple Python programming Build a concurrent crawler to process web pages in parallel Follow links to crawl a website Extract features from the HTML Cache downloaded HTML for reuse Compare concurrent models to determine the fastest crawler Find out how to parse JavaScript-dependent websites Interact with forms and sessions In Detail The Internet contains the most useful set of data ever assembled, most of which is publicly accessible for free. However, this data is not easily usable. It is embedded within the structure and style of websites and needs to be carefully extracted. Web scraping is becoming increasingly useful as a means to gather and make sense of the wealth of information available online. This book is the ultimate guide to using the latest features of Python 3.x to scrape data from websites. In the early chapters, you'll see how to extract data from static web pages. You'll learn to use caching with databases and files to save time and manage the load on servers. After covering the basics, you'll get hands-on practice building a more sophisticated crawler using browsers, crawlers, and concurrent scrapers. You'll determine when and how to scrape data from a JavaScript-dependent website using PyQt and Selenium. You'll get a better understanding of how to submit forms on complex websites protected by CAPTCHA. You'll find out how to automate these actions with Python packages such as mechanize. You'll also learn how to create class-based scrapers with Scrapy libraries and implement your learning on real websites. By the end of the book, you will have explored testing websites with scrapers, remote

scraping, best practices, working with images, and many other relevant topics. Style and approach This hands-on guide is full of real-life examples and solutions starting simple and then progressively becoming more complex. Each chapter in this book introduces a problem and then provides one or more possible solutions.

Mastering Proxmox Packt Publishing Ltd

Leverage the power of Ansible to gain complete control over your systems and automate application deployment Key Features Use Ansible 2.9 to automate and control your infrastructure Delve into advanced functionality such as plugins and custom modules in Ansible Automate and orchestrate major cloud platforms such as OpenStack, AWS, and Azure using Ansible Book Description Ansible enables you to automate software provisioning, configuration management, and application roll-outs, and can be used as a deployment and orchestration tool. While Ansible provides simple yet powerful features to automate multi-layer environments using agentless communication, it can also solve other critical IT challenges, such as ensuring continuous integration and continuous deployment (CI/CD) with zero downtime. In this book, you'll work with Ansible 2.9 and learn to solve complex issues quickly with the help of task-oriented scenarios. You'll start by installing and configuring Ansible on Linux and macOS to automate monotonous and repetitive IT tasks and get to grips with concepts such as playbooks, inventories, and network modules. As you progress, you'll gain insight into the YAML syntax and learn how to port between Ansible versions. In addition to this, you'll also understand how Ansible enables you to orchestrate multi-layer environments such as networks, containers, and the cloud. By the end of this Ansible book, you'll be well-versed in writing playbooks and other related Ansible code to overcome just about all of your IT challenges, from infrastructure-as-code provisioning to application deployments, and even handling the mundane day-to-day maintenance tasks that take up so much valuable time. What you will learn Become familiar with the fundamentals of the Ansible framework Set up role-based variables and dependencies Avoid common mistakes and pitfalls when writing automation code in Ansible Extend Ansible by developing your own modules and plugins Contribute to the Ansible project by submitting your own code Follow best practices for working with cloud environment

inventories Troubleshoot issues triggered during Ansible playbook runs Who this book is for If you are a DevOps engineer, administrator, or any IT professional looking to automate IT tasks using Ansible, this book is for you. Prior knowledge of Ansible is not necessary.

Mastering the Trade, Second Edition: Proven Techniques for Profiting from Intraday and Swing Trading Setups Packt Publishing Ltd

Discover real world scenarios for Proxmox troubleshooting and become an expert cloud builder About This Book Formulate Proxmox-based solutions and set up virtual machines of any size while gaining expertise even on the most complex multi-cluster setups Master the skills needed to analyze, monitor, and troubleshoot real-world virtual environments This is the most up-to-date title on mastering Proxmox, with examples based on the new Linux Kernel 4.10.15 and Debian Stretch (9.x) Who This Book Is For This book is for Linux and system administrators and professionals working in IT teams who would like to design and implement an enterprise-quality virtualized environment using Proxmox. Some knowledge of networking and virtualization concepts is assumed. What You Will Learn Install basic Proxmox VE nodes and get to know the Proxmox GUI Get to know Proxmox's internal structure and mechanics Create and manage KVM or LXC-based virtual machines Understand advanced virtual networks Configure high availability Proxmox nodes Integrate Ceph big data storage with the Proxmox hypervisor Plan a large virtual environment for cloud-based services Discover real-world scenarios for Proxmox troubleshooting In Detail Proxmox is an open source server virtualization solution that has enterprise-class features for managing virtual machines, for storage, and to virtualize both Linux and Windows application workloads. You'll begin with a refresher on the advanced installation features and the Proxmox GUI to familiarize yourself with the Proxmox VE hypervisor. Then, you'll move on to explore Proxmox under the hood, focusing on storage systems, such as Ceph, used with Proxmox. Moving on, you'll learn to manage KVM virtual machines, deploy Linux containers fast, and see how networking is handled in Proxmox. You'll also learn how to protect a cluster or a VM with a firewall and explore the new high availability features introduced in Proxmox VE 5.0. Next, you'll dive deeper into the backup/restore strategy and see how to properly update and

upgrade a Proxmox node. Later, you'll learn how to monitor a Proxmox cluster and all of its components using Zabbix. Finally, you'll discover how to recover Proxmox from disaster strikes through some real-world examples. By the end of the book, you'll be an expert at making Proxmox work in production environments with minimal downtime. Style and approach This book walks you through every aspect of virtualization using Proxmox using a practical, scenario-based approach that features best practices and all the weaponry you need to succeed when building virtual environments with Proxmox 5.0.

MQTT Essentials - A Lightweight IoT Protocol Packt Publishing Ltd

This is not an instructional guide, but a practical, scenario-based book which guides you through everything you need to know in a practical manner by letting you build your own cluster. By the end of the book, you will have a fully functional Proxmox cluster setup at your disposal and have the knowledge to replicate virtualization solutions. If you already know what the word "virtualization" means and you are ready to stand out from the crowd equipped with the unique ability to design and implement a rock-solid virtualized network environment using Proxmox, then you have just picked up the

*Mastering Proxmox, Second Edition* Apress

Over 60 hands-on recipes to perform server virtualization and manage virtualized server solutions with Proxmox About This Book Learn the process of installing, configuring, and managing Proxmox clusters Explore ways of integrating various storage systems with Proxmox Step-by-step and easy-to-learn instructions to build virtual environments of any size using Proxmox Who This Book Is For This book is perfect for system administrators who want to learn to implement and administer Proxmox VE environments. Since this book will not cover the basics of Proxmox, a basic understanding of virtualization and networking with Proxmox VE is required. What You Will Learn Install and configure an enterprise grade, cluster-based virtual environment using Proxmox Manage a cluster with Graphical User Interface using datacenter, node, KVM, and OpenVZ menus among others Learn different ways of configuring your network and clusters to create complex cloud services Configure and manage the built-in Proxmox firewall to protect your virtual environment Integrate storage systems such as Ceph, Sheepdog, and ZFS for virtual machine management to suit your business needs Backup and

restore your data via stop suspend, and snapshot modes Upgrade a Proxmox node with new releases and apply update patches through GUI or CLI Monitor the resources and virtual machines to maintain performance and uptime Explore commands used for Proxmox and Ceph cluster through CLI In Detail Proxmox VE goes head to head with big virtualization platforms without bearing the overheads of high costs and vendor lock-ins. Rock solid stability and extremely easy manageability gives Proxmox VE an edge in the world of virtualization. The Proxmox cluster file system (pmxcfs) is designed uniquely for storage of configuration files with high security and reliability. Its simplicity and robustness make it easy for system administrators to manage their systems efficiently. Proxmox VE's intuitive interface, high availability, and unique central management system puts it on par with the world's best virtualization platforms. Its simplicity and high quality of service is what makes it the foremost choice for most system administrators. Starting with a step-by-step installation of Proxmox nodes along with an illustrated tour of Proxmox graphical user interface where you will spend most of your time managing a cluster, this book will get you up and running with the mechanisms of Proxmox VE. Various entities such as Cluster, Storage, and Firewall are also covered in an easy to understand format. You will then explore various backup solutions and restore mechanisms, thus learning to keep your applications and servers safe. Next, you will see how to upgrade a Proxmox node with a new release and apply update patches through GUI or CLI. Monitoring resources and virtual machines is required on an enterprise level, to maintain performance and uptime; to achieve this, we learn how to monitor host machine resources and troubleshoot common issues in the setup. Finally, we will walk through some advanced configurations for VM followed by a list of commands used for Proxmox and Ceph cluster through CLI. With this focused and detailed guide you will learn to work your way around with Proxmox VE quickly and add to your skillset. Style and approach This book is an inclusive and extensive handbook. It takes a pragmatic approach to complement your system admin skills and accomplish tasks within the Proxmox environment. It consists of illustrations and code-files to help you work with the data as you go from one recipe to the other.

*Learning Three.js - the JavaScript 3D Library for WebGL - Second Edition* Packt Publishing Ltd

Unleash the power of Proxmox VE by setting up a dedicated virtual environment to serve both containers and virtual machines About This Book- Create virtual machines and containers from the comfort of your workstation using Proxmox VE's web-based management interface- Maximize performance, security, and the quality of virtual services by tailoring container and virtual machine configurations based on established best practices- Put theory to practice by deploying virtual servers that promise portability, modularity, flexibility, security, and quality of service at any scale Who This Book Is For This book is intended for server and system administrators and engineers who are eager to take advantage of the potential of virtual machines and containers to manage servers more efficiently and make the best use of resources, from energy consumption to hardware utilization and physical real estate What You Will Learn- Install and configure Proxmox VE- Create new virtual machines and containers- Import container templates and virtual appliances- Optimize virtual machine performance for common use cases- Apply the latest security patches to a Proxmox VE host- Contrast PVE virtual machines and containers to recognize their respective use cases- Secure virtual machines and containers- Assess the benefits of virtualization on budgets, server real estate, maintenance, and management time In Detail Proxmox VE 4.1 provides an open source, enterprise virtualization platform on which to host virtual servers as either virtual machines or containers. This book will support your practice of the requisite skills to successfully create, tailor, and deploy virtual machines and containers with Proxmox VE 4.1. Following a survey of PVE's features and characteristics, this book will contrast containers with virtual machines and establish cases for both. It walks through the installation of Proxmox VE, explores the creation of containers and virtual machines, and suggests best practices for virtual disk creation, network configuration, and Proxmox VE host and guest security. Throughout the book, you will navigate the Proxmox VE 4.1 web interface and explore options for command-line management. Style and approach This book is a practical exploration of the different processes and procedures, which are essential in beginning your journey to fluent creation and optimization of effective containers and virtual machines. *Blender 3D Incredible Machines* Packt Publishing Ltd Design, develop, and solve real-world automation and

orchestration problems by unlocking the automation capabilities of Ansible. Key Features Tackle complex automation challenges with the newly added features in Ansible 2.7 Book Description Automation is essential for success in the modern world of DevOps. Ansible provides a simple, yet powerful, automation engine for tackling complex automation challenges. This book will take you on a journey that will help you exploit the latest version's advanced features to help you increase efficiency and accomplish complex orchestrations. This book will help you understand how Ansible 2.7 works at a fundamental level and will also teach you to leverage its advanced capabilities. Throughout this book, you will learn how to encrypt Ansible content at rest and decrypt data at runtime. Next, this book will act as an ideal resource to help you master the advanced features and capabilities required to tackle complex automation challenges. Later, it will walk you through workflows, use cases, orchestrations, troubleshooting, and Ansible extensions. Lastly, you will examine and debug Ansible operations, helping you to understand and resolve issues. By the end of the book, you will be able to unlock the true power of the Ansible automation engine and tackle complex, real-world actions with ease. What you will learn Gain an in-depth understanding of how Ansible works under the hood Fully automate Ansible playbook executions with encrypted data Access and manipulate variable data within playbooks Use blocks to perform failure recovery or cleanup Explore the Playbook debugger and the Ansible Console Troubleshoot unexpected behavior effectively Work with cloud infrastructure providers and container systems Develop custom modules, plugins, and dynamic inventory sources Who this book is for This book is for Ansible developers and operators who have an understanding of its core elements and applications but are now looking to enhance their skills in applying automation using Ansible.

*Proxmox High Availability* Packt Publishing Ltd

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.

*Mastering Proxmox* Packt Publishing Ltd

If you want to know the secrets of virtualization and how to implement high availability on your services, this is the book for you. For those of you who are already using Proxmox, this book offers you the chance to build a high availability cluster with a distributed filesystem to further protect your system from failure.

*Mastering Proxmox* Packt Publishing Ltd

Follow step-by-step guidance to craft a successful security program. You will identify with the paradoxes of information security and discover handy tools that hook security controls into business processes. Information security is more than configuring firewalls, removing viruses, hacking machines, or setting passwords. Creating and promoting a successful security program requires skills in organizational consulting, diplomacy, change

management, risk analysis, and out-of-the-box thinking. What You Will Learn: Build a security program that will fit neatly into an organization and change dynamically to suit both the needs of the organization and survive constantly changing threats Prepare for and pass such common audits as PCI-DSS, SSAE-16, and ISO 27001 Calibrate the scope, and customize security controls to fit into an organization's culture Implement the most challenging processes, pointing out common pitfalls and distractions Frame security and risk issues to be clear and actionable so that decision makers, technical personnel, and users will listen and value your advice Who This Book Is For: IT professionals moving into the security field; new security managers, directors, project heads, and would-be CISOs; and security specialists from other disciplines moving into information security (e.g., former military security professionals, law enforcement professionals, and physical security professionals)

*Mastering Proxmox* Packt Publishing Ltd

Know how to set up, defend, and attack computer networks with this revised and expanded second edition. You will learn to configure your network from the ground up, beginning with developing your own private virtual test environment, then setting up your own DNS server and AD infrastructure. You will continue with more advanced network services, web servers, and database servers and you will end by building your own web applications servers, including WordPress and Joomla!. Systems from 2011 through 2017 are covered, including Windows 7, Windows 8, Windows 10, Windows Server 2012, and Windows Server 2016 as well as a range of Linux distributions, including Ubuntu, CentOS, Mint, and OpenSUSE. Key defensive techniques are integrated throughout and you will develop situational awareness of your network and build a complete defensive infrastructure, including log servers, network firewalls, web application firewalls, and intrusion detection systems. Of course, you cannot truly understand how to defend a network if you do not know how to attack it, so you will attack your test systems in a variety of ways. You will learn about Metasploit, browser attacks, privilege escalation, pass-the-hash attacks, malware, man-in-the-middle attacks, database attacks, and web application attacks. What You'll Learn Construct a testing laboratory to experiment with software and attack techniques Build realistic networks that include active directory, file servers, databases,

web servers, and web applications such as WordPress and Joomla!

Manage networks remotely with tools, including PowerShell, WMI, and WinRM

Use offensive tools such as Metasploit, Mimikatz, Veil, Burp Suite, and John the Ripper

Exploit networks starting from malware and initial intrusion to privilege escalation through password cracking and persistence mechanisms

Defend networks by developing operational awareness using auditd and Sysmon to analyze logs, and deploying defensive tools such as the Snort intrusion detection system, IPFire firewalls, and ModSecurity web application firewalls

Who This Book Is For This study guide is intended for everyone involved in or interested in cybersecurity operations (e.g., cybersecurity professionals, IT professionals, business professionals, and students)

*Mastering Ubuntu Server* Packt Publishing Ltd

Discover real world scenarios for Proxmox troubleshooting and become an expert cloud builder

About This Book\*

- Formulate Proxmox-based solutions and set up virtual machines of any size while gaining expertise even on the most complex multi-cluster setups\*
- Master the skills needed to analyze, monitor, and troubleshoot real-world virtual environments\*
- This is the most up-to-date title on mastering Proxmox, with examples based on the new Linux Kernel 4.10.15 and Debian Stretch (9.x)
- Who This Book Is For This book is for Linux and system administrators and professionals working in IT teams who would like to design and implement an enterprise-quality virtualized environment using Proxmox. Some knowledge of networking and virtualization concepts is assumed.
- What You Will Learn\*

  - Install basic Proxmox VE nodes and get to know the Proxmox GUI\*
  - Get to know Proxmox's internal structure and mechanics\*
  - Create and manage KVM or LXC-based virtual machines\*
  - Understand advanced virtual networks\*
  - Configure high availability Proxmox nodes\*
  - Integrate Ceph big data storage with the Proxmox hypervisor\*
  - Plan a large virtual environment for cloud-based services\*
  - Discover real-world scenarios for Proxmox troubleshooting

In Detail Proxmox is an open source server virtualization solution that has enterprise-class features for managing virtual machines, for storage, and to virtualize both Linux and Windows application workloads. You'll begin with a refresher on the advanced installation features and the Proxmox GUI to familiarize yourself with the Proxmox VE hypervisor. Then, you'll move on to explore Proxmox under the

hood, focusing on storage systems, such as Ceph, used with Proxmox. Moving on, you'll learn to manage KVM virtual machines, deploy Linux containers fast, and see how networking is handled in Proxmox. You'll also learn how to protect a cluster or a VM with a firewall and explore the new high availability features introduced in Proxmox VE 5.0. Next, you'll dive deeper into the backup/restore strategy and see how to properly update and upgrade a Proxmox node. Later, you'll learn how to monitor a Proxmox cluster and all of its components using Zabbix. Finally, you'll discover how to recover Proxmox from disaster strikes through some real-world examples. By the end of the book, you'll be an expert at making Proxmox work in production environments with minimal downtime. Style and approach This book walks you through every aspect of virtualization using Proxmox using a practical, scenario-based approach that features best practices and all the weaponry you need to succeed when building virtual environments with Proxmox 5.0.

*Mastering Veeam Backup & Replication* Packt Publishing Ltd  
Design, model, and texture complex mechanical objects in Blender About This Book Develop realistic and awesome machines for your 3D projects and animation films Gain the ability to look at a piece of machinery in real life and then recreate it in Blender Develop a comprehensive skill set covering key aspects of mechanical modeling Who This Book Is For This book is intended for consumers and hobbyists who are existing users of Blender 3D want to expand their capabilities by diving into machine modeling with Blender 3D. You are expected to have experience with basic Blender operations. What You Will Learn Reacquaint yourself with Blender's modeling toolset Practice fundamental skills that are applicable to a range of modeling projects Know when and where to use various types of geometry—something that saves time in one instance will pose significant problems in another Think ahead and plan your project out to significantly improve both quality and efficiency Create models for freestyle use Overcome challenging modeling problems Create customized game models that can easily be exported to other formats. This is one of the most popular uses of Blender, and the results can be incorporated into game design! Get comfortable with the start-to-finish process to create any type of hard surface model In Detail Blender 3D is one of the top pieces of 3D animation software. Machine modeling is an

essential aspect of war games, space games, racing games, and animated action films. As the Blender software grows more powerful and popular, there is a demand to take your modeling skills to the next level. This book will cover all the topics you need to create professional models and renders. This book will help you develop a comprehensive skill set that covers the key aspects of mechanical modeling. Through this book, you will create many types of projects, including a pistol, spacecraft, robot, and a racer. We start by making a Sci-fi pistol, creating its basic shape and adding details to it. Moving on, you'll discover modeling techniques for larger objects such as a space craft and take a look at how different techniques are required for freestyle modeling. After this, we'll create the basic shapes for the robot and combine the meshes to create unified objects. We'll assign materials and explore the various options for freestyle rendering. We'll discuss techniques to build low-poly models, create a low-poly racer, and explain how they differ from the high poly models we created previously. By the end of this book, you will have mastered a workflow that you will be able to apply to your own creations. Style and approach This is an easy-to-follow book that is based around four concrete projects. Each topic is explained sequentially in the process of creating a model, and detailed explanations of the basic and advanced features are also included.

*CentOS 7 Linux Server Cookbook* Packt Publishing Ltd  
This is the third edition of the bestselling one-stop resource for sysadmins and DevOps professionals to learn, configure and use Ubuntu 20.04 for their day-to-day operations and deployments. Key Features A hands-on book that will teach you how to deploy, maintain and troubleshoot Ubuntu Server Learn to leverage the improved performance and security-related aspects of Ubuntu Server 20.04 LTS New chapters dedicated to exploring Ubuntu for cloud Book Description Ubuntu Server has taken data centers around the world by storm. Whether you're deploying Ubuntu for a large-scale project or for a small office, it is a stable, customizable, and powerful Linux distribution with innovative and cutting-edge features. For both simple and complex server deployments, Ubuntu's flexible nature can be easily adapted to meet to the needs of your organization. This third edition is updated to cover the advancements of Ubuntu 20.04 LTS and further train you to understand how to use Ubuntu Server, from

initial deployment to creating production-ready resources for your network. The book begins with the concepts of user management, group management, and file system permissions. Continuing into managing storage volumes, you will learn how to format storage devices, utilize logical volume management, and monitor disk usage. Later, you will learn how to virtualize hosts and applications, which will include setting up QEMU & KVM, as well as containerization with both Docker and LXD. As the book continues, you will learn how to automate configuration with Ansible, as well as take a look at writing scripts. Lastly, you will explore best practices and troubleshooting techniques when working with Ubuntu Server that are applicable to real-world scenarios. By the end of this Ubuntu Server book, you will be well-versed in Ubuntu server's advanced concepts and attain the required proficiency needed for Ubuntu Server administration. What you will learn Manage users, groups, and permissions Optimize the performance of system resources Perform disk encryption and decryption with Linux Unified Key Setup (LUKS) Set up Secure Shell (SSH) for remote access, and connect it to other nodes Share directories using Samba and Network File System (NFS) Get familiar with scripting to improve command-line efficiency Configure VMs, containers, and orchestrate with MicroK8s and Kubernetes Automate server deployments with Ansible and cloud server deployments with Terraform Who this book is for The book is written to cater to sysadmins and DevOps professionals whose teams are planning to employ an Ubuntu/Linux environment for their development needs. Prior knowledge of Ubuntu is not required. However, it is assumed that you possess some IT admin, Linux, and shell scripting experience.

*Proxmox Cookbook* Packt Publishing Ltd  
A project based guides to learn animation, advanced shaders, environments, particle rendering, and networked games with Godot 3.0 Key Features Learn the art of developing cross-platform games Leverage Godot's node and scene system to design robust, reusable game objects Integrate Blender easily and efficiently with Godot to create powerful 3D games Book Description Godot Engine Game Development Projects is an introduction to the Godot game engine and its new 3.0 version. Godot 3.0 brings a large number of new features and capabilities that make it a strong alternative to expensive commercial game

engines. For beginners, Godot offers a friendly way to learn game development techniques, while for experienced developers it is a powerful, customizable tool that can bring your visions to life. This book consists of five projects that will help developers achieve a sound understanding of the engine when it comes to building games. Game development is complex and involves a wide spectrum of knowledge and skills. This book can help you build on your foundation level skills by showing you how to create a number of small-scale game projects. Along the way, you will

learn how Godot works and discover important game development techniques that you can apply to your projects. Using a straightforward, step-by-step approach and practical examples, the book will take you from the absolute basics through to sophisticated game physics, animations, and other techniques. Upon completing the final project, you will have a strong foundation for future success with Godot 3.0. What you will learn Get started with the Godot game engine and editor Organize a game project Import graphical and audio assets Use

Godot's node and scene system to design robust, reusable game objects Write code in GDScript to capture input and build complex behaviors Implement user interfaces to display information Create visual effects to spice up your game Learn techniques that you can apply to your own game projects Who this book is for Godot Engine Game Development Projects is for both new users and experienced developers, who want to learn to make games using a modern game engine. Some prior programming experience in C and C++ is recommended.