

Offensive Security Advanced Web Attacks And Exploitation

An intensive hands-on guide to perform professional penetration testing for highly-secured environments from start to finish. You will learn to provide penetration testing services to clients with mature security infrastructure. Understand how to perform each stage of the penetration test by gaining hands-on experience in performing attacks that mimic those seen in the wild. In the end, take the challenge and perform a virtual penetration test against a fictional corporation. If you are looking for guidance and detailed instructions on how to perform a penetration test from start to finish, are looking to build out your own penetration testing lab, or are looking to improve on your existing penetration testing skills, this book is for you. Although the book attempts to accommodate those that are still new to the penetration testing field, experienced testers should be able to gain knowledge and hands-on experience as well. The book does assume that you have some experience in web application testing and as such the chapter regarding this subject may require you to understand the basic concepts of web security. The reader should also be familiar with basic IT concepts, and commonly used protocols such as TCP/IP. Over 100 practical recipes that leverage custom scripts and integrated tools in Kali Linux to help you effectively master network scanning About This Book Learn the fundamentals behind commonly used scanning techniques Deploy powerful scanning tools that are integrated into the Kali Linux testing platform The practical recipes will help you automate menial tasks and build your own script library Who This Book Is For This book is for information security professionals and casual security enthusiasts alike. It provides foundational principles if you're a novice, but will also introduce scripting techniques and in-depth analysis if you're more advanced. Whether you are brand new to Kali Linux or a seasoned veteran, this book will help you both understand and ultimately master many of the most powerful and useful scanning techniques in the industry. It is assumed that you have some basic security testing experience. What You Will Learn Develop a network-testing environment to test scanning tools and techniques Understand the principles of network-scanning tools by building scripts and tools Identify distinct vulnerabilities in web apps and remote services and learn how they are exploited Perform comprehensive scans to identify listening on TCP and UDP sockets Get started with different Kali desktop environments--KDE, MATE, LXDE, and Xfce Use Sparta for information gathering, port scanning, fingerprinting, vulnerability scanning, and more Evaluate DoS threats and learn how common DoS attacks are performed Learn how to use Burp Suite to evaluate web applications In Detail With the ever-increasing amount of data flowing in today's world, information security has become vital to any application. This is where Kali Linux comes in. Kali Linux focuses mainly on security auditing and penetration testing. This step-by-step cookbook on network scanning trains you in important scanning concepts based on version 2016.2. It will enable you to conquer any network environment through a range of network scanning techniques and will also equip you to script your very own tools. Starting with the fundamentals of installing and managing Kali Linux, this book will help you map your target with a wide range of network scanning tasks, including discovery, port scanning, fingerprinting, and more. You will learn how to utilize the arsenal of tools available in Kali Linux to conquer any network environment. The book offers expanded coverage of the popular Burp Suite and has new and updated scripts for automating scanning and target exploitation. You will also be shown how to identify remote services, how to assess security risks, and how various attacks are performed. You will cover the latest features of Kali Linux 2016.2, which includes the enhanced Sparta tool and many other exciting updates. This immersive guide will also encourage the creation of personally scripted tools and the skills required to create them. Style and approach This step-by-step guide is full of recipes that will help you use integrated scanning tools in Kali Linux and develop custom scripts to make new and unique tools of your own.

The Pentester BluePrint Starting a Career as an Ethical Hacker John Wiley & Sons

Conferences Proceedings of 20th European Conference on Cyber Warfare and Security

The experts of the International Working Group-Landau Network Centro Volta (IWG-LNCV) discuss aspects of cyber security and present possible methods of deterrence, defense and resilience against cyber attacks. This SpringerBrief covers state-of-the-art documentation on the deterrence power of cyber attacks and argues that nations are entering a new cyber arms race. The brief also provides a technical analysis of possible cyber attacks towards critical infrastructures in the chemical industry and chemical safety industry. The authors also propose modern analyses and a holistic approach to resilience and security of Industrial Control Systems. The combination of contextual overview and future directions in the field makes this brief a useful resource for researchers and professionals studying systems security, data security and data structures. Advanced-level students interested in data security will also find this brief a helpful guide to recent research.

Cyber-Attacks and the Exploitable Imperfections of International Law reveals elements of existing jus ad bellum and jus in bello regimes that are unable to accommodate the threats posed by cyber-attacks. It maps out legal gaps, deficiencies, and uncertainties, which international actors may seek to exploit to their political benefit.

These proceedings represent the work of contributors to the 16th International Conference on Cyber Warfare and Security (ICCWS 2021), hosted by joint collaboration of Tennessee Tech Cybersecurity Education, Research and Outreach Center (CEROC), Computer Science department and the Oak Ridge National Laboratory, Tennessee on 25-26 February 2021. The Conference Co-Chairs are Dr. Juan Lopez Jr, Oak Ridge National Laboratory, Tennessee, and Dr. Ambareen Siraj, Tennessee Tech's Cybersecurity Education, Research and Outreach Center (CEROC), and the Program Chair is Dr. Kalyan Perumalla, from Oak Ridge National Laboratory, Tennessee.

The internet is established in most households worldwide and used for entertainment purposes, shopping, social networking, business activities, banking, telemedicine, and more. As more individuals and businesses use this essential tool to connect with each other and consumers, more private data is exposed to criminals ready to exploit it for their gain. Thus, it is essential to continue discussions involving policies that regulate and monitor these activities, and anticipate new laws that should be implemented in order to protect users. Cyber Law, Privacy, and Security: Concepts, Methodologies, Tools, and Applications examines current internet and data protection laws and their impact on user experience and cybercrime, and explores the need for further policies that protect user identities, data, and privacy. It also offers the latest methodologies and applications in the areas of digital security and threats. Highlighting a range of topics such as online privacy and security, hacking, and online threat protection, this multi-volume book is ideally designed for IT specialists, administrators, policymakers, researchers, academicians, and upper-level students.

Penetrationstests mit Metasploit als effektiver Teil der IT-Sicherheitsstrategie Der komplette Workflow: Portscanning mit Nmap, Hacking mit Metasploit, Schwachstellen scannen mit Nessus Die Techniken der Angreifer verstehen und geeignete Gegenmaßnahmen ergreifen Metasploit ist ein mächtiges Werkzeug, mit dem auch unerfahrene Administratoren gängige Angriffsmethoden verstehen und nachstellen können. Der Autor erklärt das Framework dabei nicht in seiner Gesamtheit, sondern greift gezielt alle Themengebiete heraus, die relevant für Verteidiger (sogenannte Blue Teams) sind. Diese erläutert Sebastian Brabetz ausführlich und zeigt, wie sie im Alltag der IT-Security wirkungsvoll eingesetzt werden können. Der Autor vermittelt Ihnen das Basiswissen zu Exploits und Penetration Testing. Sie setzen eine Kali-Linux-Umgebung auf und lernen, sich dort zurechtzufinden. Mit dem kostenlos verfügbaren Portscanner Nmap scannen Sie Systeme auf angreifbare Dienste ab. Sebastian Brabetz führt Sie dann Schritt für Schritt durch einen typischen Hack mit Metasploit und demonstriert, wie Sie mit einfachen Techniken in kürzester Zeit höchste Berechtigungsstufen in den Zielumgebungen erlangen. Schließlich zeigt er Ihnen, wie Sie Metasploit von der Meldung einer Sicherheitsbedrohung über das Patchen bis hin zur Validierung in der Verteidigung von IT-Systemen und Netzwerken einsetzen und gibt konkrete

Tipps zur Erhöhung Ihres IT-Sicherheitslevels. Zusätzlich lernen Sie, Schwachstellen mit dem Schwachstellenscanner Nessus zu finden, auszuwerten und auszugeben. So wird Metasploit ein effizienter Bestandteil Ihrer IT-Sicherheitsstrategie. Sie können Schwachstellen und Angriffstechniken unter sicheren Rahmenbedingungen selbst anwenden und somit fundierte Entscheidungen treffen sowie nachvollziehen, ob Ihre Gegenmaßnahmen erfolgreich sind.

If you are interested in learning how to test web applications and the web part of mobile applications using Burp, then this is the book for you. It is specifically designed to meet your needs if you have basic experience in using Burp and are now aiming to become a professional Burp user.

In our hyper-connected digital world, cybercrime prevails as a major threat to online security and safety. New developments in digital forensics tools and an understanding of current criminal activities can greatly assist in minimizing attacks on individuals, organizations, and society as a whole. The Handbook of Research on Digital Crime, Cyberspace Security, and Information Assurance combines the most recent developments in data protection and information communication technology (ICT) law with research surrounding current criminal behaviors in the digital sphere. Bridging research and practical application, this comprehensive reference source is ideally designed for use by investigators, computer forensics practitioners, and experts in ICT law, as well as academicians in the fields of information security and criminal science.

Take your penetration testing and IT security skills to a whole new level with the secrets of Metasploit About This Book Gain the skills to carry out penetration testing in complex and highly-secured environments Become a master using the Metasploit framework, develop exploits, and generate modules for a variety of real-world scenarios Get this completely updated edition with new useful methods and techniques to make your network robust and resilient Who This Book Is For This book is a hands-on guide to penetration testing using Metasploit and covers its complete development. It shows a number of techniques and methodologies that will help you master the Metasploit framework and explore approaches to carrying out advanced penetration testing in highly secured environments. What You Will Learn Develop advanced and sophisticated auxiliary modules Port exploits from PERL, Python, and many more programming languages Test services such as databases, SCADA, and many more Attack the client side with highly advanced techniques Test mobile and tablet devices with Metasploit Perform social engineering with Metasploit Simulate attacks on web servers and systems with Armitage GUI Script attacks in Armitage using CORTANA scripting In Detail Metasploit is a popular penetration testing framework that has one of the largest exploit databases around. This book will show you exactly how to prepare yourself against the attacks you will face every day by simulating real-world possibilities. We start by reminding you about the basic functionalities of Metasploit and its use in the most traditional ways. You'll get to know about the basics of programming Metasploit modules as a refresher, and then dive into carrying out exploitation as well building and porting exploits of various kinds in Metasploit. In the next section, you'll develop the ability to perform testing on various services such as SCADA, databases, IoT, mobile, tablets, and many more services. After this training, we jump into real-world sophisticated scenarios where performing penetration tests are a challenge. With real-life case studies, we take you on a journey through client-side attacks using Metasploit and various scripts built on the Metasploit framework. By the end of the book, you will be trained specifically on time-saving techniques using Metasploit. Style and approach This is a step-by-step guide that provides great Metasploit framework methodologies. All the key concepts are explained details with the help of examples and demonstrations that will help you understand everything you need to know about Metasploit.

Build your own secure enterprise or home penetration testing lab to dig into the various hacking techniques About This Book Design and build an extendable penetration testing lab with wireless access suitable for home and enterprise use Fill the lab with various components and customize them according to your own needs and skill level Secure your lab from unauthorized access and external attacks Who This Book Is For If you are a beginner or a security professional who wishes to learn to build a home or enterprise lab environment where you can safely practice penetration testing techniques and improve your hacking skills, then this book is for you. No prior penetration testing experience is required, as the lab environment is suitable for various skill levels and is used for a wide range of techniques from basic to advance. Whether you are brand new to online learning or you are a seasoned expert, you will be able to set up your own hacking playground depending on your tasks. What You Will Learn Determine your needs and choose the appropriate lab components for them Build a virtual or hardware lab network Imitate an enterprise network and prepare intentionally vulnerable software and services Secure wired and wireless access to your lab Choose a penetration testing framework according to your needs Arm your own wireless hacking platform Get to know the methods to create a strong defense mechanism for your system In Detail Starting with the basics of wireless networking and its associated risks, we will guide you through the stages of creating a penetration testing lab with wireless access and preparing your wireless penetration testing machine. This book will guide you through configuring hardware and virtual network devices, filling the lab network with applications and security solutions, and making it look and work like a real enterprise network. The resulting lab protected with WPA-Enterprise will let you practice most of the attack techniques used in penetration testing projects. Along with a review of penetration testing frameworks, this book is also a detailed manual on preparing a platform for wireless penetration testing. By the end of this book, you will be at the point when you can practice, and research without worrying about your lab environment for every task. Style and approach This is an easy-to-follow guide full of hands-on examples and recipes. Each topic is explained thoroughly and supplies you with the necessary configuration settings. You can pick the recipes you want to follow depending on the task you need to perform.

Suitable for undergraduate students entering the field of Homeland Security, and for Criminal Justice students studying their role in a post-9/11 world, Introduction to Homeland Security is a comprehensive but accessible text designed for students seeking a thorough overview of the policies, administrations, and organizations that fall under Homeland Security. It grounds students in the basic issues of homeland security, the history and context of the field, and what the future of the field might hold. Students will come away with a solid understanding of the central issues surrounding Homeland Security, including policy concepts as well as political and legal responses to Homeland Security.

Master the art of detecting and averting advanced network security attacks and techniques About This Book Deep dive into the advanced network security attacks and techniques by leveraging tools such as Kali Linux 2, MetaSploit, Nmap, and Wireshark Become an expert in cracking WiFi passwords, penetrating anti-virus networks, sniffing the network, and USB hacks This step-by-step guide shows you how to confidently and quickly detect vulnerabilities for your network before the hacker does Who This Book Is For This book is for network security professionals, cyber security professionals, and Pentesters who are well versed with fundamentals of network security and now want to master it. So whether you're a cyber security professional, hobbyist, business manager, or student aspiring to becoming an ethical hacker or just want to learn more about the cyber security aspect of the IT industry, then this book is definitely for you. What You Will Learn Use SET to clone webpages including the login page Understand the concept of Wi-Fi cracking and use PCAP file to obtain passwords Attack using a USB as payload injector Familiarize yourself with the process of trojan attacks Use Shodan to identify honeypots, rogue access points, vulnerable webcams, and other exploits found in the database Explore various tools for wireless penetration testing and auditing Create an evil twin to intercept network traffic Identify human patterns in networks attacks In Detail Computer networks are increasing at an exponential rate and the most challenging factor organisations are currently facing is network security. Breaching a network is not considered an ingenious effort anymore, so it is very important to gain expertise in securing your network. The book begins by showing you how to identify malicious network behaviour and improve your wireless security. We will teach you what network sniffing is, the various tools associated with it, and how to scan for vulnerable wireless networks. Then we'll show you how attackers hide the payloads and

bypass the victim's antivirus. Furthermore, we'll teach you how to spoof IP / MAC address and perform an SQL injection attack and prevent it on your website. We will create an evil twin and demonstrate how to intercept network traffic. Later, you will get familiar with Shodan and Intrusion Detection and will explore the features and tools associated with it. Toward the end, we cover tools such as Yardstick, Ubetooth, Wifi Pineapple, and Alfa used for wireless penetration testing and auditing. This book will show the tools and platform to ethically hack your own network whether it is for your business or for your personal home Wi-Fi. Style and approach This mastering-level guide is for all the security professionals who are eagerly waiting to master network security skills and protecting their organization with ease. It contains practical scenarios on various network security attacks and will teach you how to avert these attacks.

Over 80 recipes on how to identify, exploit, and test web application security with Kali Linux 2 About This Book Familiarize yourself with the most common web vulnerabilities a web application faces, and understand how attackers take advantage of them Set up a penetration testing lab to conduct a preliminary assessment of attack surfaces and run exploits Learn how to prevent vulnerabilities in web applications before an attacker can make the most of it Who This Book Is For This book is for IT professionals, web developers, security enthusiasts, and security professionals who want an accessible reference on how to find, exploit, and prevent security vulnerabilities in web applications. You should know the basics of operating a Linux environment and have some exposure to security technologies and tools. What You Will Learn Set up a penetration testing laboratory in a secure way Find out what information is useful to gather when performing penetration tests and where to look for it Use crawlers and spiders to investigate an entire website in minutes Discover security vulnerabilities in web applications in the web browser and using command-line tools Improve your testing efficiency with the use of automated vulnerability scanners Exploit vulnerabilities that require a complex setup, run custom-made exploits, and prepare for extraordinary scenarios Set up Man in the Middle attacks and use them to identify and exploit security flaws within the communication between users and the web server Create a malicious site that will find and exploit vulnerabilities in the user's web browser Repair the most common web vulnerabilities and understand how to prevent them becoming a threat to a site's security In Detail Web applications are a huge point of attack for malicious hackers and a critical area for security professionals and penetration testers to lock down and secure. Kali Linux is a Linux-based penetration testing platform and operating system that provides a huge array of testing tools, many of which can be used specifically to execute web penetration testing. This book will teach you, in the form step-by-step recipes, how to detect a wide array of vulnerabilities, exploit them to analyze their consequences, and ultimately buffer attackable surfaces so applications are more secure, for you and your users. Starting from the setup of a testing laboratory, this book will give you the skills you need to cover every stage of a penetration test: from gathering information about the system and the application to identifying vulnerabilities through manual testing and the use of vulnerability scanners to both basic and advanced exploitation techniques that may lead to a full system compromise. Finally, we will put this into the context of OWASP and the top 10 web application vulnerabilities you are most likely to encounter, equipping you with the ability to combat them effectively. By the end of the book, you will have the required skills to identify, exploit, and prevent web application vulnerabilities. Style and approach Taking a recipe-based approach to web security, this book has been designed to cover each stage of a penetration test, with descriptions on how tools work and why certain programming or configuration practices can become security vulnerabilities that may put a whole system, or network, at risk. Each topic is presented as a sequence of tasks and contains a proper explanation of why each task is performed and what it accomplishes.

The tactical organization and protection of resources is a vital component for any governmental entity. Effectively managing national security through various networks ensures the highest level of protection and defense for citizens and classified information. National Security: Breakthroughs in Research and Practice is an authoritative resource for the latest research on the multiple dimensions of national security, including the political, physical, economic, ecological, and computational dimensions. Highlighting a range of pertinent topics such as data breaches, surveillance, and threat detection, this publication is an ideal reference source for government officials, law enforcement, professionals, researchers, IT professionals, academicians, and graduate-level students seeking current research on the various aspects of national security.

How secure is your network? The best way to find out is to attack it, using the same tactics attackers employ to identify and exploit weaknesses. With the third edition of this practical book, you'll learn how to perform network-based penetration testing in a structured manner. Security expert Chris McNab demonstrates common vulnerabilities, and the steps you can take to identify them in your environment. System complexity and attack surfaces continue to grow. This book provides a process to help you mitigate risks posed to your network. Each chapter includes a checklist summarizing attacker techniques, along with effective countermeasures you can use immediately. Learn how to effectively test system components, including: Common services such as SSH, FTP, Kerberos, SNMP, and LDAP Microsoft services, including NetBIOS, SMB, RPC, and RDP SMTP, POP3, and IMAP email services IPsec and PPTP services that provide secure network access TLS protocols and features providing transport security Web server software, including Microsoft IIS, Apache, and Nginx Frameworks including Rails, Django, Microsoft ASP.NET, and PHP Database servers, storage protocols, and distributed key-value stores

Build your defense against web attacks with Kali Linux 2.0 About This Book • Gain a deep understanding of the flaws in web applications and exploit them in a practical manner • Get hands-on web application hacking experience with a range of tools in Kali Linux 2.0 • Develop the practical skills required to master multiple tools in the Kali Linux 2.0 toolkit Who This Book Is For If you are already working as a network penetration tester and want to expand your knowledge of web application hacking, then this book tailored for you. Those who are interested in learning more about the Kali Sana tools that are used to test web applications will find this book a thoroughly useful and interesting guide. What You Will Learn • Set up your lab with Kali Linux 2.0 • Identify the difference between hacking a web application and network hacking • Understand the different techniques used to identify the flavor of web applications • Expose vulnerabilities present in web servers and their applications using server-side attacks • Use SQL and cross-site scripting (XSS) attacks • Check for XSS flaws using the burp suite proxy • Find out about the mitigation techniques used to negate the effects of the Injection and Blind SQL attacks In Detail Kali Linux 2.0 is the new generation of the industry-leading BackTrack Linux penetration testing and security auditing Linux distribution. It contains several hundred tools aimed at various information security tasks such as penetration testing, forensics, and reverse engineering. At the beginning of the book, you will be introduced to the concepts of hacking and penetration testing and will get to know about the tools used in Kali Linux 2.0 that relate to web application hacking. Then, you will gain a deep understanding of SQL and command injection flaws and ways to exploit the flaws. Moving on, you will get to know more about scripting and input validation flaws, AJAX, and the security issues related to AJAX. At the end of the book, you will use an automated technique called fuzzing to be able to identify flaws in a web application. Finally, you will understand the web application vulnerabilities and the ways in which they can be exploited using the tools in Kali Linux 2.0. Style and approach This step-by-step guide covers each topic with detailed practical examples. Every concept is explained with the help of illustrations using the tools available in Kali Linux 2.0.

A complete pentesting guide facilitating smooth backtracking for working hackers About This Book Conduct network testing, surveillance, pen testing and forensics on MS Windows using Kali Linux Gain a deep understanding of the flaws in web applications and exploit them in a practical manner Pentest Android apps and perform various attacks in the real world using real case studies Who This Book Is For This course is for anyone who wants to learn about security. Basic knowledge of Android programming would be a plus. What You Will Learn Exploit several common Windows network vulnerabilities Recover lost files, investigate successful hacks, and discover hidden data in innocent-looking files Expose vulnerabilities present in web servers and their applications using server-side attacks Use SQL and cross-site scripting (XSS) attacks Check for XSS flaws using the burp suite proxy Acquaint yourself with the fundamental building blocks of Android Apps in the right way Take a look at how your personal data can be stolen by malicious attackers See how developers make mistakes that allow attackers to steal data from phones In Detail The need for penetration testers has grown well over what the IT industry ever anticipated. Running just a vulnerability scanner is no longer an effective method to determine whether a business is truly secure. This learning path will help you develop the most effective penetration testing skills to protect your Windows, web applications, and Android devices. The first module focuses on the Windows platform, which is one of the most common OSes, and managing its security spawned the discipline of IT security. Kali Linux is the premier platform for testing and maintaining Windows security. Employs the most advanced tools and techniques to reproduce the methods used by sophisticated hackers. In this module first, you'll be introduced to Kali's top ten tools and other useful reporting tools. Then, you will find your way around your target network and determine known vulnerabilities so you can exploit a system remotely. You'll not only learn to penetrate in the machine, but will also learn to work with Windows privilege escalations. The second module will help you get to grips with the tools used in Kali Linux 2.0 that relate to web application hacking. You will get to know about scripting and input validation flaws, AJAX, and security issues related to AJAX. You will also use an automated technique called fuzzing so you can identify flaws in a web application. Finally, you'll understand the web application vulnerabilities and the ways they can be exploited. In the last module, you'll get started with Android security. Android, being the platform with the largest consumer base, is the obvious primary target for attackers. You'll begin this journey with the absolute basics and will then slowly gear up to the concepts of Android rooting, application security assessments, malware, infecting APK files, and fuzzing. You'll gain the skills necessary to perform Android application vulnerability assessments and to create an Android pentesting lab. This Learning Path is a blend of content from the following Packt products: Kali Linux 2: Windows Penetration Testing by Wolf Halton and Bo Weaver Web Penetration Testing with Kali Linux, Second Edition by Juned Ahmed Ansari Hacking Android by Srinivasa Rao Kotipalli and Mohammed A. Imran Style and approach This course uses easy-to-understand yet professional language for explaining concepts to test your network's security.

MUSIC 2013 will be the most comprehensive text focused on the various aspects of Mobile, Ubiquitous and Intelligent computing. MUSIC 2013 provides an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of intelligent technologies in mobile and ubiquitous computing environment. MUSIC 2013 is the next edition of the 3rd International Conference on Mobile, Ubiquitous, and Intelligent Computing (MUSIC-12, Vancouver, Canada, 2012) which was the next event in a series of highly successful International Workshop on Multimedia, Communication and Convergence technologies MCC-11 (Crete, Greece, June 2011), MCC-10 (Cebu, Philippines, August 2010).

This book constitutes the refereed proceedings of the 21st International Symposium on Research in Attacks, Intrusions, and Defenses, RAID 2018, held in Heraklion, Crete, Greece, in September 2018. The 32 revised full papers were carefully reviewed and selected from 145 submissions. They are organized in the following topical sections: attacks; intrusion detection and prevention; DDoS attacks; passwords, accounts, and users; machine learning for computer security; hardware-assisted security; software security; malware; IoT/CPS security; security measurements; and defenses.

This book explains the ongoing war between private business and cyber criminals, state-sponsored attackers, terrorists, and hacktivist groups. Further, it explores the risks posed by trusted employees that put critical information at risk through malice, negligence, or simply making a mistake. It clarifies the historical context of the current situation as it relates to cybersecurity, the challenges facing private business, and the fundamental changes organizations can make to better protect themselves. The problems we face are difficult, but they are not hopeless. Cybercrime continues to grow at an astounding rate. With constant coverage of cyber-attacks in the media, there is no shortage of awareness of increasing threats. Budgets have increased and executives are implementing stronger defenses. Nonetheless, breaches continue to increase in frequency and scope. Building a Comprehensive IT Security Program shares why organizations continue to fail to secure their critical information assets and explains the internal and external adversaries facing organizations today. This book supplies the necessary knowledge and skills to protect organizations better in the future by implementing a comprehensive approach to security. Jeremy Wittkop's security expertise and critical experience provides insights into topics such as: Who is attempting to steal information and why? What are critical information assets? How are effective programs built? How is stolen information capitalized? How do we shift the paradigm to better protect our organizations? How we can make the cyber world safer for everyone to do business?

Master the art of exploiting advanced web penetration techniques with Kali Linux 2016.2 About This Book Make the most out of advanced web pen-testing techniques using Kali Linux 2016.2 Explore how Stored (a.k.a. Persistent) XSS attacks work and how to take advantage of them Learn to secure your application by performing advanced web based attacks. Bypass internet security to traverse from the web to a private network. Who This Book Is For This book targets IT pen testers, security consultants, and ethical hackers who want to expand their knowledge and gain expertise on advanced web penetration techniques. Prior knowledge of penetration testing would be beneficial. What You Will Learn Establish a fully-featured sandbox for test rehearsal and risk-free investigation of applications Enlist open-source information to get a head-start on enumerating account credentials, mapping potential dependencies, and discovering unintended backdoors and exposed information Map, scan, and spider web applications using nmap/zenmap, nikto, arachni, webscarab, w3af, and NetCat for more accurate characterization Proxy web transactions through tools such as Burp Suite, OWASP's ZAP tool, and Vega to uncover application weaknesses and manipulate responses Deploy SQL injection, cross-site scripting, Java vulnerabilities, and overflow attacks using Burp Suite, websploit, and SQLMap to test application robustness Evaluate and test identity, authentication, and authorization schemes and sniff out weak cryptography before the black hats do In Detail You will start by delving into some common web application architectures in use, both in private and public cloud instances. You will also learn about the most common frameworks for testing, such as OWASP OGT version 4, and how to use them to guide your efforts. In the next section, you will be

introduced to web pentesting with core tools and you will also see how to make web applications more secure through rigorous penetration tests using advanced features in open source tools. The book will then show you how to better hone your web pentesting skills in safe environments that can ensure low-risk experimentation with the powerful tools and features in Kali Linux that go beyond a typical script-kiddie approach. After establishing how to test these powerful tools safely, you will understand how to better identify vulnerabilities, position and deploy exploits, compromise authentication and authorization, and test the resilience and exposure applications possess. By the end of this book, you will be well-versed with the web service architecture to identify and evade various protection mechanisms that are used on the Web today. You will leave this book with a greater mastery of essential test techniques needed to verify the secure design, development, and operation of your customers' web applications. Style and approach An advanced-level guide filled with real-world examples that will help you take your web application's security to the next level by using Kali Linux 2016.2.

A fast, hands-on introduction to offensive hacking techniques Hands-On Hacking teaches readers to see through the eyes of their adversary and apply hacking techniques to better understand real-world risks to computer networks and data. Readers will benefit from the author's years of experience in the field hacking into computer networks and ultimately training others in the art of cyber-attacks. This book holds no punches and explains the tools, tactics and procedures used by ethical hackers and criminal crackers alike. We will take you on a journey through a hacker's perspective when focused on the computer infrastructure of a target company, exploring how to access the servers and data. Once the information gathering stage is complete, you'll look for flaws and their known exploits—including tools developed by real-world government financed state-actors. • An introduction to the same hacking techniques that malicious hackers will use against an organization • Written by infosec experts with proven history of publishing vulnerabilities and highlighting security flaws • Based on the tried and tested material used to train hackers all over the world in the art of breaching networks • Covers the fundamental basics of how computer networks are inherently vulnerable to attack, teaching the student how to apply hacking skills to uncover vulnerabilities We cover topics of breaching a company from the external network perimeter, hacking internal enterprise systems and web application vulnerabilities. Delving into the basics of exploitation with real-world practical examples, you won't find any hypothetical academic only attacks here. From start to finish this book will take the student through the steps necessary to breach an organization to improve its security. Written by world-renowned cybersecurity experts and educators, Hands-On Hacking teaches entry-level professionals seeking to learn ethical hacking techniques. If you are looking to understand penetration testing and ethical hacking, this book takes you from basic methods to advanced techniques in a structured learning format.

These Proceedings are the work of researchers contributing to the 10th International Conference on Cyber Warfare and Security ICCWS 2015, co hosted this year by the University of Venda and The Council for Scientific and Industrial Research. The conference is being held at the Kruger National Park, South Africa on the 24 25 March 2015. The Conference Chair is Dr Jannie Zaaiman from the University of Venda, South Africa, and the Programme Chair is Dr Louise Leenen from the Council for Scientific and Industrial Research, South Africa.

The Basics of Hacking and Penetration Testing, Second Edition, serves as an introduction to the steps required to complete a penetration test or perform an ethical hack from beginning to end. The book teaches students how to properly utilize and interpret the results of the modern-day hacking tools required to complete a penetration test. It provides a simple and clean explanation of how to effectively utilize these tools, along with a four-step methodology for conducting a penetration test or hack, thus equipping students with the know-how required to jump start their careers and gain a better understanding of offensive security. Each chapter contains hands-on examples and exercises that are designed to teach learners how to interpret results and utilize those results in later phases. Tool coverage includes: Backtrack Linux, Google reconnaissance, MetaGooFil, dig, Nmap, Nessus, Metasploit, Fast Track Autopwn, Netcat, and Hacker Defender rootkit. This is complemented by PowerPoint slides for use in class. This book is an ideal resource for security consultants, beginning InfoSec professionals, and students. Each chapter contains hands-on examples and exercises that are designed to teach you how to interpret the results and utilize those results in later phases. Written by an author who works in the field as a Penetration Tester and who teaches Offensive Security, Penetration Testing, and Ethical Hacking, and Exploitation classes at Dakota State University. Utilizes the Kali Linux distribution and focuses on the seminal tools required to complete a penetration test.

Evade antiviruses and bypass firewalls with the most widely used penetration testing frameworks Key Features Gain insights into the latest antivirus evasion techniques Set up a complete pentesting environment using Metasploit and virtual machines Discover a variety of tools and techniques that can be used with Kali Linux Book Description Penetration testing or ethical hacking is a legal and foolproof way to identify vulnerabilities in your system. With thorough penetration testing, you can secure your system against the majority of threats. This Learning Path starts with an in-depth explanation of what hacking and penetration testing is. You'll gain a deep understanding of classical SQL and command injection flaws, and discover ways to exploit these flaws to secure your system. You'll also learn how to create and customize payloads to evade antivirus software and bypass an organization's defenses. Whether it's exploiting server vulnerabilities and attacking client systems, or compromising mobile phones and installing backdoors, this Learning Path will guide you through all this and more to improve your defense against online attacks. By the end of this Learning Path, you'll have the knowledge and skills you need to invade a system and identify all its vulnerabilities. This Learning Path includes content from the following Packt products: Web Penetration Testing with Kali Linux - Third Edition by Juned Ahmed Ansari and Gilberto Najera-Gutierrez Metasploit Penetration Testing Cookbook - Third Edition by Abhinav Singh , Monika Agarwal, et al What you will learn Build

and analyze Metasploit modules in Ruby Integrate Metasploit with other penetration testing tools Use server-side attacks to detect vulnerabilities in web servers and their applications Explore automated attacks such as fuzzing web applications Identify the difference between hacking a web application and network hacking Deploy Metasploit with the Penetration Testing Execution Standard (PTES) Use MSFvenom to generate payloads and backdoor files, and create shellcode Who this book is for This Learning Path is designed for security professionals, web programmers, and pentesters who want to learn vulnerability exploitation and make the most of the Metasploit framework. Some understanding of penetration testing and Metasploit is required, but basic system administration skills and the ability to read code are a must.

Discover the most common web vulnerabilities and prevent them from becoming a threat to your site's security Key Features Familiarize yourself with the most common web vulnerabilities Conduct a preliminary assessment of attack surfaces and run exploits in your lab Explore new tools in the Kali Linux ecosystem for web penetration testing Book Description Web applications are a huge point of attack for malicious hackers and a critical area for security professionals and penetration testers to lock down and secure. Kali Linux is a Linux-based penetration testing platform that provides a broad array of testing tools, many of which can be used to execute web penetration testing. Kali Linux Web Penetration Testing Cookbook gives you the skills you need to cover every stage of a penetration test - from gathering information about the system and application, to identifying vulnerabilities through manual testing. You will also cover the use of vulnerability scanners and look at basic and advanced exploitation techniques that may lead to a full system compromise. You will start by setting up a testing laboratory, exploring the latest features of tools included in Kali Linux and performing a wide range of tasks with OWASP ZAP, Burp Suite and other web proxies and security testing tools. As you make your way through the book, you will learn how to use automated scanners to find security flaws in web applications and understand how to bypass basic security controls. In the concluding chapters, you will look at what you have learned in the context of the Open Web Application Security Project (OWASP) and the top 10 web application vulnerabilities you are most likely to encounter, equipping you with the ability to combat them effectively. By the end of this book, you will have acquired the skills you need to identify, exploit, and prevent web application vulnerabilities. What you will learn Set up a secure penetration testing laboratory Use proxies, crawlers, and spiders to investigate an entire website Identify cross-site scripting and client-side vulnerabilities Exploit vulnerabilities that allow the insertion of code into web applications Exploit vulnerabilities that require complex setups Improve testing efficiency using automated vulnerability scanners Learn how to circumvent security controls put in place to prevent attacks Who this book is for Kali Linux Web Penetration Testing Cookbook is for IT professionals, web developers, security enthusiasts, and security professionals who want an accessible reference on how to find, exploit, and prevent security vulnerabilities in web applications. The basics of operating a Linux environment and prior exposure to security technologies and tools are necessary.

Build your defense against web attacks with Kali Linux 2.0 About This Book Gain a deep understanding of the flaws in web applications and exploit them in a practical manner Get hands-on web application hacking experience with a range of tools in Kali Linux 2.0 Develop the practical skills required to master multiple tools in the Kali Linux 2.0 toolkit Who This Book Is For If you are already working as a network penetration tester and want to expand your knowledge of web application hacking, then this book tailored for you. Those who are interested in learning more about the Kali Linux tools that are used to test web applications will find this book a thoroughly useful and interesting guide. What You Will Learn Set up your lab with Kali Linux 2.0 Identify the difference between hacking a web application and network hacking Understand the different techniques used to identify the flavor of web applications Expose vulnerabilities present in web servers and their applications using server-side attacks Use SQL and cross-site scripting (XSS) attacks Check for XSS flaws using the burp suite proxy Find out about the mitigation techniques used to negate the effects of the Injection and Blind SQL attacks In Detail Kali Linux 2.0 is the new generation of the industry-leading BackTrack Linux penetration testing and security auditing Linux distribution. It contains several hundred tools aimed at various information security tasks such as penetration testing, forensics, and reverse engineering. At the beginning of the book, you will be introduced to the concepts of hacking and penetration testing and will get to know about the tools used in Kali Linux 2.0 that relate to web application hacking. Then, you will gain a deep understanding of SQL and command injection flaws and ways to exploit the flaws. Moving on, you will get to know more about scripting and input validation flaws, AJAX, and the security issues related to AJAX. At the end of the book, you will use an automated technique called fuzzing to be able to identify flaws in a web application. Finally, you will understand the web application vulnerabilities and the ways in which they can be exploited using the tools in Kali Linux 2.0. Style and approach This step-by-step guide covers each topic with detailed practical examples. Every concept is explained with the help of illustrations using the tools available in Kali Linux 2.0.

The Basics of Web Hacking introduces you to a tool-driven process to identify the most widespread vulnerabilities in Web applications. No prior experience is needed. Web apps are a "path of least resistance" that can be exploited to cause the most damage to a system, with the lowest hurdles to overcome. This is a perfect storm for beginning hackers. The process set forth in this book introduces not only the theory and practical information related to these vulnerabilities, but also the detailed configuration and usage of widely available tools necessary to exploit these vulnerabilities. The Basics of Web Hacking provides a simple and clean explanation of how to utilize tools such as Burp Suite, sqlmap, and Zed Attack Proxy (ZAP), as well as basic network scanning tools such as nmap, Nikto, Nessus, Metasploit, John the Ripper, web shells, netcat, and more. Dr. Josh Pauli teaches software security at Dakota State University and has presented on this topic to the U.S. Department of Homeland Security, the NSA, BlackHat Briefings, and Defcon. He will lead you through a focused, three-part approach to Web security, including hacking the server, hacking the Web app, and hacking the Web user. With Dr. Pauli's approach, you will fully understand the what/where/why/how of the most widespread Web vulnerabilities and how easily they can be exploited with the correct tools. You will learn how to set

up a safe environment to conduct these attacks, including an attacker Virtual Machine (VM) with all necessary tools and several known-vulnerable Web application VMs that are widely available and maintained for this very purpose. Once you complete the entire process, not only will you be prepared to test for the most damaging Web exploits, you will also be prepared to conduct more advanced Web hacks that mandate a strong base of knowledge. Provides a simple and clean approach to Web hacking, including hands-on examples and exercises that are designed to teach you how to hack the server, hack the Web app, and hack the Web user Covers the most significant new tools such as nmap, Nikto, Nessus, Metasploit, John the Ripper, web shells, netcat, and more! Written by an author who works in the field as a penetration tester and who teaches Web security classes at Dakota State University

These proceedings represent the work of contributors to the 19th European Conference on Cyber Warfare and Security (ECCWS 2020), supported by University of Chester, UK on 25-26 June 2020. The Conference Co-chairs are Dr Thaddeus Eze and Dr Lee Speakman, both from University of Chester and the Programme Chair is Dr Cyril Onwubiko from IEEE and Director, Cyber Security Intelligence at Research Series Limited. ECCWS is a well-established event on the academic research calendar and now in its 19th year the key aim remains the opportunity for participants to share ideas and meet. The conference was due to be held at University of Chester, UK, but due to the global Covid-19 pandemic it was moved online to be held as a virtual event. The scope of papers will ensure an interesting conference. The subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research.

The highly successful security book returns with a new edition, completely updated Web applications are the front door to most organizations, exposing them to attacks that may disclose personal information, execute fraudulent transactions, or compromise ordinary users. This practical book has been completely updated and revised to discuss the latest step-by-step techniques for attacking and defending the range of ever-evolving web applications. You'll explore the various new technologies employed in web applications that have appeared since the first edition and review the new attack techniques that have been developed, particularly in relation to the client side. Reveals how to overcome the new technologies and techniques aimed at defending web applications against attacks that have appeared since the previous edition Discusses new remoting frameworks, HTML5, cross-domain integration techniques, UI redress, framebusting, HTTP parameter pollution, hybrid file attacks, and more Features a companion web site hosted by the authors that allows readers to try out the attacks described, gives answers to the questions that are posed at the end of each chapter, and provides a summarized methodology and checklist of tasks Focusing on the areas of web application security where things have changed in recent years, this book is the most current resource on the critical topic of discovering, exploiting, and preventing web application security flaws. Also available as a set with, CEHv8: Certified Hacker Version 8 Study Guide, Ethical Hacking and Web Hacking Set, 9781119072171.

Your one-stop guide to learning and implementing Red Team tactics effectively Key Features Target a complex enterprise environment in a Red Team activity Detect threats and respond to them with a real-world cyber-attack simulation Explore advanced penetration testing tools and techniques Book Description Red Teaming is used to enhance security by performing simulated attacks on an organization in order to detect network and system vulnerabilities. Hands-On Red Team Tactics starts with an overview of pentesting and Red Teaming, before giving you an introduction to few of the latest pentesting tools. We will then move on to exploring Metasploit and getting to grips with Armitage. Once you have studied the fundamentals, you will learn how to use Cobalt Strike and how to set up its team server. The book introduces some common lesser known techniques for pivoting and how to pivot over SSH, before using Cobalt Strike to pivot. This comprehensive guide demonstrates advanced methods of post-exploitation using Cobalt Strike and introduces you to Command and Control (C2) servers and redirectors. All this will help you achieve persistence using beacons and data exfiltration, and will also give you the chance to run through the methodology to use Red Team activity tools such as Empire during a Red Team activity on Active Directory and Domain Controller. In addition to this, you will explore maintaining persistent access, staying untraceable, and getting reverse connections over different C2 covert channels. By the end of this book, you will have learned about advanced penetration testing tools, techniques to get reverse shells over encrypted channels, and processes for post-exploitation. What you will learn Get started with red team engagements using lesser-known methods Explore intermediate and advanced levels of post-exploitation techniques Get acquainted with all the tools and frameworks included in the Metasploit framework Discover the art of getting stealthy access to systems via Red Teaming Understand the concept of redirectors to add further anonymity to your C2 Get to grips with different uncommon techniques for data exfiltration Who this book is for Hands-On Red Team Tactics is for you if you are an IT professional, pentester, security consultant, or ethical hacker interested in the IT security domain and wants to go beyond Penetration Testing. Prior knowledge of penetration testing is beneficial.

JUMPSTART YOUR NEW AND EXCITING CAREER AS A PENETRATION TESTER The Pentester BluePrint: Your Guide to Being a Pentester offers readers a chance to delve deeply into the world of the ethical, or "white-hat" hacker. Accomplished pentester and author Phillip L. Wylie and cybersecurity researcher Kim Crawley walk you through the basic and advanced topics necessary to understand how to make a career out of finding vulnerabilities in systems, networks, and applications. You'll learn about the role of a penetration tester, what a pentest involves, and the prerequisite knowledge you'll need to start the educational journey of becoming a pentester. Discover how to develop a plan by assessing your current skillset and finding a starting place to begin growing your knowledge and skills. Finally, find out how to become employed as a pentester by using social media, networking strategies, and community involvement. Perfect for IT workers and entry-level information security professionals, The Pentester BluePrint also belongs on the bookshelves of anyone seeking to transition to the exciting and in-demand field of penetration testing. Written in a highly approachable and accessible style, The Pentester BluePrint avoids unnecessarily technical lingo in favor of concrete advice and practical strategies to help you get your start in pentesting. This book will teach you: The foundations of pentesting, including basic IT skills like operating systems, networking, and security systems The development of hacking skills and a hacker mindset Where to find educational options, including college and university classes, security training providers, volunteer work, and self-study Which certifications and degrees are most useful for gaining employment as a pentester How to get experience in the pentesting field, including labs, CTFs, and bug bounties

In a very short time, individuals and companies have harnessed cyberspace to create new industries, a vibrant social space, and a new economic sphere that are intertwined with our everyday

lives. At the same time, individuals, subnational groups, and governments are using cyberspace to advance interests through malicious activity. Terrorists recruit, train, and target through the Internet, hackers steal data, and intelligence services conduct espionage. Still, the vast majority of cyberspace is civilian space used by individuals, businesses, and governments for legitimate purposes. Cyberspace and National Security brings together scholars, policy analysts, and information technology executives to examine current and future threats to cyberspace. They discuss various approaches to advance and defend national interests, contrast the US approach with European, Russian, and Chinese approaches, and offer new ways and means to defend interests in cyberspace and develop offensive capabilities to compete there. Policymakers and strategists will find this book to be an invaluable resource in their efforts to ensure national security and answer concerns about future cyberwarfare.

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.

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