

Guide Building Secure Web Applications

Combines language tutorials with application design advice to cover the PHP server-side scripting language and the MySQL database engine.

IBWAS 2009, the Iberic Conference on Web Applications Security, was the first international conference organized by both the OWASP Portuguese and Spanish chapters in order to join the international Web application security academic and industry communities to present and discuss the major aspects of Web applications security. There is currently a change in the information systems development paradigm. The emergence of Web 2.0 technologies led to the extensive deployment and use of Web-based applications and Web services as a way to develop new and flexible information systems. Such systems are easy to develop, deploy and maintain and they demonstrate impressive features for users, resulting in their current wide use. The “social” features of these technologies create the necessary “massification” effects that make millions of users share their own personal information and content over large web-based interactive platforms. Corporations, businesses and governments all over the world are also developing and deploying more and more applications to interact with their businesses, customers, suppliers and citizens to enable stronger and tighter relations with all of them. Moreover, legacy non-Web systems are being ported to this new intrinsically connected environment. IBWAS 2009 brought together application security experts, researchers, educators and practitioners from industry, academia and international communities such as OWASP, in order to discuss open problems and new solutions in application security. In the context of this track, academic researchers were able to combine interesting results with the experience of practitioners and software engineers.

The five volume set LNCS 10960 until 10964 constitutes the refereed proceedings of the 18th International Conference on Computational Science and Its Applications, ICCSA 2018, held in Melbourne, Australia, in July 2018. Apart from the general tracks, ICCSA 2018 also includes 34 international workshops in various areas of computational sciences, ranging from computational science technologies, to specific areas of computational sciences, such as computer graphics and virtual reality. The total of 265 full papers and 10 short papers presented in the 5-volume proceedings set of ICCSA 2018, were carefully reviewed and selected from 892 submissions.

Web applications occupy a large space within the IT infrastructure of a business or a corporation. They simply just don't touch a front end or a back end; today's web apps impact just about every corner of it. Today's web apps have become complex, which has made them a prime target for sophisticated cyberattacks. As a result, web apps must be literally tested from the inside and out in terms of security before they can be deployed and launched to the public for business transactions to occur. The primary objective of this book is to address those specific areas that require testing before a web app can be considered to be

completely secure. The book specifically examines five key areas: Network security: This encompasses the various network components that are involved in order for the end user to access the particular web app from the server where it is stored at to where it is being transmitted to, whether it is a physical computer itself or a wireless device (such as a smartphone). Cryptography: This area includes not only securing the lines of network communications between the server upon which the web app is stored at and from where it is accessed from but also ensuring that all personally identifiable information (PII) that is stored remains in a ciphertext format and that its integrity remains intact while in transmission. Penetration testing: This involves literally breaking apart a Web app from the external environment and going inside of it, in order to discover all weaknesses and vulnerabilities and making sure that they are patched before the actual Web app is launched into a production state of operation. Threat hunting: This uses both skilled analysts and tools on the Web app and supporting infrastructure to continuously monitor the environment to find all security holes and gaps. The Dark Web: This is that part of the Internet that is not openly visible to the public. As its name implies, this is the "sinister" part of the Internet, and in fact, where much of the PII that is hijacked from a web app cyberattack is sold to other cyberattackers in order to launch more covert and damaging threats to a potential victim. Testing and Securing Web Applications breaks down the complexity of web application security testing so this critical part of IT and corporate infrastructure remains safe and in operation.

Can a system be considered truly reliable if it isn't fundamentally secure? Or can it be considered secure if it's unreliable? Security is crucial to the design and operation of scalable systems in production, as it plays an important part in product quality, performance, and availability. In this book, experts from Google share best practices to help your organization design scalable and reliable systems that are fundamentally secure. Two previous O'Reilly books from Google—Site Reliability Engineering and The Site Reliability Workbook—demonstrated how and why a commitment to the entire service lifecycle enables organizations to successfully build, deploy, monitor, and maintain software systems. In this latest guide, the authors offer insights into system design, implementation, and maintenance from practitioners who specialize in security and reliability. They also discuss how building and adopting their recommended best practices requires a culture that's supportive of such change. You'll learn about secure and reliable systems through: Design strategies Recommendations for coding, testing, and debugging practices Strategies to prepare for, respond to, and recover from incidents Cultural best practices that help teams across your organization collaborate effectively The Second Edition of Security Strategies in Web Applications and Social Networking provides an in-depth look at how to secure mobile users as customer-facing information migrates from mainframe computers and application servers to Web-enabled applications. Written by an industry expert, this book provides a

comprehensive explanation of the evolutionary changes that have occurred in computing, communications, and social networking and discusses how to secure systems against all the risks, threats, and vulnerabilities associated with Web-enabled applications accessible via the internet. Using examples and exercises, this book incorporates hands-on activities to prepare readers to successfully secure Web-enabled applications.

Gain a solid foundation for designing, building, and configuring security-enhanced, hack-resistant Microsoft® ASP.NET Web applications. This expert guide describes a systematic, task-based approach to security that can be applied to both new and existing applications. It addresses security considerations at the network, host, and application layers for each physical tier—Web server, remote application server, and database server—detailing the security configurations and countermeasures that can help mitigate risks. The information is organized into sections that correspond to both the product life cycle and the roles involved, making it easy for architects, designers, and developers to find the answers they need. All PATTERNS & PRACTICES guides are reviewed and approved by Microsoft engineering teams, consultants, partners, and customers—delivering accurate, real-world information that's been technically validated and tested.

This book constitutes the refereed proceedings of the 11th IFIP TC 6/TC 11 International Conference on Communications and Multimedia Security, CMS 2006, held in Linz, Austria, in May/June 2010. The 23 revised full papers presented were carefully reviewed and selected from 55 submissions. The papers are organized in topical sections on WiFi and RF security; XML and web services security; watermarking and multimedia security; analysis and detection of malicious code and risk management; VoIP security; biometrics; applied cryptography; and secure communications.

Being highly flexible in building dynamic, database-driven web applications makes the PHP programming language one of the most popular web development tools in use today. It also works beautifully with other open source tools, such as the MySQL database and the Apache web server. However, as more web sites are developed in PHP, they become targets for malicious attackers, and developers need to prepare for the attacks. Security is an issue that demands attention, given the growing frequency of attacks on web sites. Essential PHP Security explains the most common types of attacks and how to write code that isn't susceptible to them. By examining specific attacks and the techniques used to protect against them, you will have a deeper understanding and appreciation of the safeguards you are about to learn in this book. In the much-needed (and highly-requested) Essential PHP Security, each chapter covers an aspect of a web application (such as form processing, database programming, session management, and authentication). Chapters describe potential attacks with examples and then explain techniques to help you prevent those attacks. Topics covered include: Preventing cross-site scripting (XSS) vulnerabilities Protecting against SQL injection attacks Complicating session hijacking attempts You are in good hands with author Chris Shiflett, an internationally-recognized expert in the field of PHP security. Shiflett is also the founder and President of Brain Bulb, a PHP consultancy that offers a variety of services to clients around the world.

This is a step-by-step, tutorial guide designed to help readers transition from beginners to more experienced developers using clear explanations. The variety of examples will help readers build, secure, and host real-time web applications. If you are a developer who wants to use PHP and MariaDB to build web applications, this book is ideal for you. Beginners can use this book to start with the basics and learn how to build and host web applications. Seasoned PHP Developers can use this book to get familiar with the new features of PHP 5.4 and 5.5, unit testing, caching, security, and performance optimization.

The Handbook of Information Security is a definitive 3-volume handbook that offers coverage of both established and cutting-edge theories and developments on information and computer security. The text contains 180 articles from over 200 leading experts, providing the benchmark resource for information security, network security, information privacy, and information warfare.

Over 75% of network attacks are targeted at the web application layer. This book provides explicit hacks, tutorials, penetration tests, and step-by-step demonstrations for security professionals and Web application developers to defend their most vulnerable applications. This book defines Web application security, why it should be addressed earlier in the lifecycle in development and quality assurance, and how it differs from other types of Internet security. Additionally, the book examines the procedures and technologies that are essential to developing, penetration testing and releasing a secure Web application. Through a review of recent Web application breaches, the book will expose the prolific methods hackers use to execute Web attacks using common vulnerabilities such as SQL Injection, Cross-Site Scripting and Buffer Overflows in the application layer. By taking an in-depth look at the techniques hackers use to exploit Web applications, readers will be better equipped to protect confidential. The Yankee Group estimates the market for Web application-security products and services will grow to \$1.74 billion by 2007 from \$140 million in 2002 Author Michael Cross is a highly sought after speaker who regularly delivers Web Application presentations at leading conferences including: Black Hat, TechnoSecurity, CanSec West, Shmoo Con, Information Security, RSA Conferences, and more

Security Strategies in Web Applications and Social Networking provides a unique, in-depth look at how to secure mobile users as customer-facing information migrates from mainframe computers and application servers to Web-enabled applications. Written by an industry expert, this book provides a comprehensive explanation of the evolutionary changes that have occurred in computing, communications, and social networking and discusses how to secure systems against all the risks, threats, and vulnerabilities associated with Web-enabled applications accessible via the Internet. Using examples and exercises, this book incorporates hands-on activities to prepare readers to successfully secure Web-enabled applications. The Jones & Bartlett Learning: Information Systems Security & Assurance Series delivers fundamental IT security principles packed with real-world applications and examples for IT Security, Cybersecurity, Information Assurance, and Information Systems Security programs. Authored by Certified Information Systems Security Professionals (CISSPs), and reviewed by leading technical experts in the field, these books are current, forward-thinking resources that enable readers to solve the cybersecurity challenges of today and tomorrow.

Proven Methods for Building Secure Java-Based Web Applications Develop, deploy, and maintain secure Java applications using the expert techniques and open source libraries described in this Oracle Press guide. Iron-Clad Java presents the processes required to build robust and secure applications from the start and explains how to eliminate existing security bugs. Best practices for authentication, access control, data protection, attack prevention, error handling, and much more are included. Using the practical advice and real-world examples provided in this authoritative resource, you'll gain valuable secure software engineering skills. Establish secure authentication and session management processes Implement a robust

access control design for multi-tenant web applications Defend against cross-site scripting, cross-site request forgery, and clickjacking Protect sensitive data while it is stored or in transit Prevent SQL injection and other injection attacks Ensure safe file I/O and upload Use effective logging, error handling, and intrusion detection methods Follow a comprehensive secure software development lifecycle "In this book, Jim Manico and August Detlefsen tackle security education from a technical perspective and bring their wealth of industry knowledge and experience to application designers. A significant amount of thought was given to include the most useful and relevant security content for designers to defend their applications. This is not a book about security theories, it's the hard lessons learned from those who have been exploited, turned into actionable items for application designers, and condensed into print."—From the Foreword by Milton Smith, Oracle Senior Principal Security Product Manager, Java

Authenticating users with passwords is a fundamental part of web and mobile security. It is also the part that's easy to get wrong. This book is for developers who want to learn how to implement password authentication correctly and securely. It answers many questions that everyone has when writing their own authentication system or learning a framework that implements it. Store passwords securely What is the best password hashing function for your app? How many bytes of salt should you use? What is the optimal password hash length? How to encode and store hashes? When to pepper and encrypt hashes and how to do it securely? How to avoid vulnerabilities in bcrypt, PBKDF2, and scrypt, and which Argon2 version to use? How to update password hashes to keep up with Moore's law? How to enforce password quality? Remember users How to implement secure sessions that are not vulnerable to timing attacks and database leaks? Why is it a bad idea to use JWT and signed cookies for sessions? How to allow users to view and revoke sessions from other devices? Verify usernames and email addresses How to verify email addresses and why is it important? How Skype failed to do it and got hacked. How to avoid vulnerabilities caused by Unicode? How to disallow profanities and reserved words in usernames? Add multi-factor authentication How to implement two-factor authentication with TOTP and WebAuthn/U2F security keys How to generate recovery codes? How long should they be? How to rate limit 2FA and why not doing it breaks everything? Also... How to create accessible registration and log in forms? How to use cryptography to improve security and when to avoid it? How to generate random strings that are free from modulo bias? The book applies to any programming language. It explains concepts and algorithms in English and provides references to relevant libraries for popular programming languages.

This is the eBook version of the print title and might not provide access to the practice test software that accompanies the print book. Learn, prepare, and practice for CompTIA Cybersecurity Analyst (CSA+) exam success with this CompTIA Authorized Cert Guide from Pearson IT Certification, a leader in IT certification learning and a CompTIA Authorized Platinum Partner. · Master CompTIA Cybersecurity Analyst (CSA+) exam topics · Assess your knowledge with chapter-ending quizzes · Review key concepts with exam preparation tasks · Practice with realistic exam questions CompTIA Cybersecurity Analyst (CSA+) Cert Guide is a best-of-breed exam study guide. Expert technology instructor and certification author Troy McMillan shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. The book presents you with an organized test-preparation routine through the use of proven series elements and techniques. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. Review questions help you assess your knowledge, and a final preparation chapter guides you through tools and resources to help you craft your final study plan. The companion website contains the powerful

Pearson Test Prep practice test software, complete with hundreds of exam-realistic questions. The assessment engine offers you a wealth of customization options and reporting features, laying out a complete assessment of your knowledge to help you focus your study where it is needed most. Well regarded for its level of detail, assessment features, and challenging review questions and exercises, this CompTIA authorized study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time. The CompTIA authorized study guide helps you master all the topics on the CSA+ exam, including

- Applying environmental reconnaissance
- Analyzing results of network reconnaissance
- Implementing responses and countermeasures
- Implementing vulnerability management processes
- Analyzing scan output and identifying common vulnerabilities
- Identifying incident impact and assembling a forensic toolkit
- Utilizing effective incident response processes
- Performing incident recovery and post-incident response
- Establishing frameworks, policies, controls, and procedures
- Remediating identity- and access-related security issues
- Architecting security and implementing compensating controls
- Implementing application security best practices
- Using cybersecurity tools and technologies

Covers topics such as the importance of secure systems, threat modeling, canonical representation issues, solving database input, denial-of-service attacks, and security code reviews and checklists.

A definitive guide on frontend development with Angular from design to deployment

Key Features

- Develop web applications from scratch using Angular and TypeScript
- Explore reactive programming principles and RxJS to develop and test apps easily
- Study continuous integration and deployment on the AWS cloud

Book Description

If you have been burnt by unreliable JavaScript frameworks before, you will be amazed by the maturity of the Angular platform. Angular enables you to build fast, efficient, and real-world web apps. In this Learning Path, you'll learn Angular and to deliver high-quality and production-grade Angular apps from design to deployment. You will begin by creating a simple fitness app, using the building blocks of Angular, and make your final app, Personal Trainer, by morphing the workout app into a full-fledged personal workout builder and runner with an advanced directive building - the most fundamental and powerful feature of Angular. You will learn the different ways of architecting Angular applications using RxJS, and some of the patterns that are involved in it. Later you'll be introduced to the router-first architecture, a seven-step approach to designing and developing mid-to-large line-of-business apps, along with popular recipes. By the end of this book, you will be familiar with the scope of web development using Angular, Swagger, and Docker, learning patterns and practices to be successful as an individual developer on the web or as a team in the Enterprise. This Learning Path includes content from the following Packt products: Angular 6 by Example by Chandermani Arora, Kevin Hennessy Architecting Angular Applications with Redux, RxJS, and NgRx by Christoffer Noring Angular 6 for Enterprise-Ready Web Applications by Doguhan Uluca

What you will learn

- Develop web applications from scratch using Angular and TypeScript
- Explore reactive programming principles, RxJS to develop and test apps efficiently
- Study continuous integration and deployment your Angular app on the AWS cloud

Who this book is for

If you're a JavaScript or frontend

developer looking to gain comprehensive experience of using Angular for end-to-end enterprise-ready applications, this Learning Path is for you.

The Manager's Guide to Web Application Security is a concise, information-packed guide to application security risks every organization faces, written in plain language, with guidance on how to deal with those issues quickly and effectively. Often, security vulnerabilities are difficult to understand and quantify because they are the result of intricate programming deficiencies and highly technical issues. Author and noted industry expert Ron Lepofsky breaks down the technical barrier and identifies many real-world examples of security vulnerabilities commonly found by IT security auditors, translates them into business risks with identifiable consequences, and provides practical guidance about mitigating them. The Manager's Guide to Web Application Security describes how to fix and prevent these vulnerabilities in easy-to-understand discussions of vulnerability classes and their remediation. For easy reference, the information is also presented schematically in Excel spreadsheets available to readers for free download from the publisher's digital annex. The book is current, concise, and to the point—which is to help managers cut through the technical jargon and make the business decisions required to find, fix, and prevent serious vulnerabilities.

A Guide to Building Secure Web Applications and Web Services Web Application Security, A Beginner's Guide McGraw Hill Professional

Software development and information systems design have a unique relationship, but are often discussed and studied independently. However, meticulous software development is vital for the success of an information system. Software Development Techniques for Constructive Information Systems Design focuses the aspects of information systems and software development as a merging process. This reference source pays special attention to the emerging research, trends, and experiences in this area which is bound to enhance the reader's understanding of the growing and ever-adapting field. Academics, researchers, students, and working professionals in this field will benefit from this publication's unique perspective.

This book constitutes the refereed proceedings of the Second International Information Security Practice and Experience Conference, ISPEC 2006, held in Hangzhou, China, in April 2006. The 35 revised full papers presented were carefully reviewed and selected from 307 submissions. The papers are organized in topical sections.

Modern web applications are built on a tangle of technologies that have been developed over time and then haphazardly pieced together. Every piece of the web application stack, from HTTP requests to browser-side scripts, comes with important yet subtle security consequences. To keep users safe, it is essential for developers to confidently navigate this landscape. In *The Tangled Web*, Michal Zalewski, one of the world's top browser security experts, offers a compelling narrative that explains exactly how browsers work and why they're

fundamentally insecure. Rather than dispense simplistic advice on vulnerabilities, Zalewski examines the entire browser security model, revealing weak points and providing crucial information for shoring up web application security. You'll learn how to: –Perform common but surprisingly complex tasks such as URL parsing and HTML sanitization –Use modern security features like Strict Transport Security, Content Security Policy, and Cross-Origin Resource Sharing –Leverage many variants of the same-origin policy to safely compartmentalize complex web applications and protect user credentials in case of XSS bugs –Build mashups and embed gadgets without getting stung by the tricky frame navigation policy –Embed or host user-supplied content without running into the trap of content sniffing For quick reference, "Security Engineering Cheat Sheets" at the end of each chapter offer ready solutions to problems you're most likely to encounter. With coverage extending as far as planned HTML5 features, *The Tangled Web* will help you create secure web applications that stand the test of time.

Innovative tools and techniques for the development and design of software systems are essential to the problem solving and planning of software solutions. *Software Design and Development: Concepts, Methodologies, Tools, and Applications* brings together the best practices of theory and implementation in the development of software systems. This reference source is essential for researchers, engineers, practitioners, and scholars seeking the latest knowledge on the techniques, applications, and methodologies for the design and development of software systems.

Cyber-criminals have your web applications in their crosshairs. They search for and exploit common security mistakes in your web application to steal user data. Learn how you can secure your Node.js applications, database and web server to avoid these security holes. Discover the primary attack vectors against web applications, and implement security best practices and effective countermeasures. Coding securely will make you a stronger web developer and analyst, and you'll protect your users. Bake security into your code from the start. See how to protect your Node.js applications at every point in the software development life cycle, from setting up the application environment to configuring the database and adding new functionality. You'll follow application security best practices and analyze common coding errors in applications as you work through the real-world scenarios in this book. Protect your database calls from database injection attacks and learn how to securely handle user authentication within your application. Configure your servers securely and build in proper access controls to protect both the web application and all the users using the service. Defend your application from denial of service attacks. Understand how malicious actors target coding flaws and lapses in programming logic to break in to web applications to steal information and disrupt operations. Work through examples illustrating security methods in Node.js. Learn defenses to protect user data flowing in and out of the application. By the end of the book, you'll understand the world of web application security, how to avoid building web applications that attackers consider an easy target, and how to increase your value as a programmer. *What You Need*: In this book we will be using mainly Node.js. The book covers the basics of JavaScript and Node.js. Since most Web applications have some kind of a database backend, examples in this book work with some of the more popular databases, including MySQL, MongoDB, and Redis.

This book is a practical guide to discovering and exploiting security flaws in web applications.

The authors explain each category of vulnerability using real-world examples, screen shots and code extracts. The book is extremely practical in focus, and describes in detail the steps involved in detecting and exploiting each kind of security weakness found within a variety of applications such as online banking, e-commerce and other web applications. The topics covered include bypassing login mechanisms, injecting code, exploiting logic flaws and compromising other users. Because every web application is different, attacking them entails bringing to bear various general principles, techniques and experience in an imaginative way. The most successful hackers go beyond this, and find ways to automate their bespoke attacks. This handbook describes a proven methodology that combines the virtues of human intelligence and computerized brute force, often with devastating results. The authors are professional penetration testers who have been involved in web application security for nearly a decade. They have presented training courses at the Black Hat security conferences throughout the world. Under the alias "PortSwigger", Dafydd developed the popular Burp Suite of web application hack tools.

Security Smarts for the Self-Guided IT Professional “Get to know the hackers—or plan on getting hacked. Sullivan and Liu have created a savvy, essentials-based approach to web app security packed with immediately applicable tools for any information security practitioner sharpening his or her tools or just starting out.” —Ryan McGeehan, Security Manager, Facebook, Inc. Secure web applications from today's most devious hackers. Web Application Security: A Beginner's Guide helps you stock your security toolkit, prevent common hacks, and defend quickly against malicious attacks. This practical resource includes chapters on authentication, authorization, and session management, along with browser, database, and file security--all supported by true stories from industry. You'll also get best practices for vulnerability detection and secure development, as well as a chapter that covers essential security fundamentals. This book's templates, checklists, and examples are designed to help you get started right away. Web Application Security: A Beginner's Guide features:

- Lingo--Common security terms defined so that you're in the know on the job
- IMHO--Frank and relevant opinions based on the authors' years of industry experience
- Budget Note--Tips for getting security technologies and processes into your organization's budget
- In Actual Practice--Exceptions to the rules of security explained in real-world contexts
- Your Plan--Customizable checklists you can use on the job now
- Into Action--Tips on how, why, and when to apply new skills and techniques at work

Building secure distributed Web applications can be challenging. It usually involves integrating several different technologies and products—yet your complete application will only be as secure as its weakest link. This guide presents a practical, scenario-driven approach to designing and building security-enhanced ASP.NET applications for Microsoft® Windows® 2000 and version 1.1 of the Microsoft .NET Framework. It focuses on the key elements of authentication, authorization, and secure communication within and across the tiers of distributed .NET Web applications. This guide focuses on:

- Authentication—to identify the clients of your application
- Authorization—to provide access controls for those clients
- Secure communication—to help ensure that messages remain private and are not altered by unauthorized parties

Who should read this guide: Middleware developers and architects who build or plan to build .NET Web applications using ASP.NET, XML Web Services, Enterprise Services (COM+), .NET Remoting, or Microsoft ADO.NET About “Patterns and Practices”: Patterns & Practices contain specific recommendations illustrating how to design, build, deploy, and operate architecturally sound solutions to challenging business and technical scenarios. The technical guidance is reviewed and approved by Microsoft engineering teams, consultants, and Product Support Services, and by partners and customers. Note: Includes complete sample on the Web.

WordPress is much more than a blogging platform. As this practical guide clearly

demonstrates, you can use WordPress to build web apps of any type—not mere content sites, but full-blown apps for specific tasks. If you have PHP experience with a smattering of HTML, CSS, and JavaScript, you'll learn how to use WordPress plugins and themes to develop fast, scalable, and secure web apps, native mobile apps, web services, and even a network of multiple WordPress sites. The authors use examples from their recently released SchoolPress app to explain concepts and techniques throughout the book. All code examples are available on GitHub. Compare WordPress with traditional app development frameworks Use themes for views, and plugins for backend functionality Get suggestions for choosing WordPress plugins—or build your own Manage user accounts and roles, and access user data Build asynchronous behaviors in your app with jQuery Develop native apps for iOS and Android, using wrappers Incorporate PHP libraries, external APIs, and web service plugins Collect payments through ecommerce and membership plugins Use techniques to speed up and scale your WordPress app

While many resources for network and IT security are available, detailed knowledge regarding modern web application security has been lacking—until now. This practical guide provides both offensive and defensive security concepts that software engineers can easily learn and apply. Andrew Hoffman, a senior security engineer at Salesforce, introduces three pillars of web application security: recon, offense, and defense. You'll learn methods for effectively researching and analyzing modern web applications—including those you don't have direct access to. You'll also learn how to break into web applications using the latest hacking techniques. Finally, you'll learn how to develop mitigations for use in your own web applications to protect against hackers. Explore common vulnerabilities plaguing today's web applications Learn essential hacking techniques attackers use to exploit applications Map and document web applications for which you don't have direct access Develop and deploy customized exploits that can bypass common defenses Develop and deploy mitigations to protect your applications against hackers Integrate secure coding best practices into your development lifecycle Get practical tips to help you improve the overall security of your web applications

Rust is a new and fast programming language that provides memory safety without a garbage collector. With its low memory footprint, it allows web developers to build high-performance and secure web apps with relative ease. This book will help web developers to adopt Rust for web app development, while addressing safety and high-performance issues.

How to solve security issues and problems arising in distributed systems. Security is one of the leading concerns in developing dependable distributed systems of today, since the integration of different components in a distributed manner creates new security problems and issues. Service oriented architectures, the Web, grid computing and virtualization – form the backbone of today's distributed systems. A lens to security issues in distributed systems is best provided via deeper exploration of security concerns and solutions in these technologies. Distributed Systems Security provides a holistic insight into current security issues, processes, and solutions, and maps out future directions in the context of today's distributed systems. This insight is elucidated by modeling of modern day distributed systems using a four-tier logical model –host layer, infrastructure layer, application layer, and service layer (bottom to top). The authors provide an in-depth coverage of security threats and issues across these tiers. Additionally the authors describe the approaches required for efficient security engineering, alongside exploring how existing solutions can be leveraged or enhanced to proactively meet the dynamic needs of security for the next-generation distributed systems. The practical issues thereof are reinforced via practical case studies. Distributed Systems Security: Presents an overview of distributed systems security issues, including threats, trends, standards and solutions. Discusses threats and vulnerabilities in different layers namely the host, infrastructure, application, and service layer to provide a holistic and practical, contemporary

view of enterprise architectures. Provides practical insights into developing current-day distributed systems security using realistic case studies. This book will be of invaluable interest to software engineers, developers, network professionals and technical/enterprise architects working in the field of distributed systems security. Managers and CIOs, researchers and advanced students will also find this book insightful.

This innovative new resource provides both professionals and aspiring professionals with clear guidance on how to identify and exploit common web application vulnerabilities. The book focuses on offensive security and how to attack web applications. It describes each of the Open Web Application Security Project (OWASP) top ten vulnerabilities, including broken authentication, cross-site scripting and insecure deserialization, and details how to identify and exploit each weakness. Readers learn to bridge the gap between high-risk vulnerabilities and exploiting flaws to get shell access. The book demonstrates how to work in a professional services space to produce quality and thorough testing results by detailing the requirements of providing a best-of-class penetration testing service. It offers insight into the problem of not knowing how to approach a web app pen test and the challenge of integrating a mature pen testing program into an organization. Based on the author's many years of first-hand experience, this book provides examples of how to break into user accounts, how to breach systems, and how to configure and wield penetration testing tools.

Learn how to execute web application penetration testing end-to-end Key Features Build an end-to-end threat model landscape for web application security Learn both web application vulnerabilities and web intrusion testing Associate network vulnerabilities with a web application infrastructure Book Description Companies all over the world want to hire professionals dedicated to application security. Practical Web Penetration Testing focuses on this very trend, teaching you how to conduct application security testing using real-life scenarios. To start with, you'll set up an environment to perform web application penetration testing. You will then explore different penetration testing concepts such as threat modeling, intrusion test, infrastructure security threat, and more, in combination with advanced concepts such as Python scripting for automation. Once you are done learning the basics, you will discover end-to-end implementation of tools such as Metasploit, Burp Suite, and Kali Linux. Many companies deliver projects into production by using either Agile or Waterfall methodology. This book shows you how to assist any company with their SDLC approach and helps you on your journey to becoming an application security specialist. By the end of this book, you will have hands-on knowledge of using different tools for penetration testing. What you will learn Learn how to use Burp Suite effectively Use Nmap, Metasploit, and more tools for network infrastructure tests Practice using all web application hacking tools for intrusion tests using Kali Linux Learn how to analyze a web application using application threat modeling Know how to conduct web intrusion tests Understand how to execute network infrastructure tests Master automation of penetration testing functions for maximum efficiency using Python Who this book is for Practical Web Penetration Testing is for you if you are a security professional, penetration tester, or stakeholder who wants to execute penetration testing using the latest and most popular tools. Basic knowledge of ethical hacking would be an added advantage.

Svelte is a modern framework for building static web apps running in the browser that can be used to create fast, lean apps, and which is fun for developers to use. This thorough and quick start guide will explore the components of Svelte and have you up and running with building a complete production-ready, static web app in no time.

Architecting High Performing, Scalable and Available Enterprise Web Applications provides in-depth insights into techniques for achieving desired scalability, availability and performance quality goals for enterprise web applications. The book provides an integrated 360-degree view of achieving and maintaining these attributes through practical, proven patterns, novel models,

best practices, performance strategies, and continuous improvement methodologies and case studies. The author shares his years of experience in application security, enterprise application testing, caching techniques, production operations and maintenance, and efficient project management techniques. Delivers holistic view of scalability, availability and security, caching, testing and project management Includes patterns and frameworks that are illustrated with end-to-end case studies Offers tips and troubleshooting methods for enterprise application testing, security, caching, production operations and project management Exploration of synergies between techniques and methodologies to achieve end-to-end availability, scalability, performance and security quality attributes 360-degree viewpoint approach for achieving overall quality Practitioner viewpoint on proven patterns, techniques, methodologies, models and best practices. Bulleted summary and tabular representation of concepts for effective understanding Production operations and troubleshooting tips

Rigorously test and improve the security of all your Web software! It's as certain as death and taxes: hackers will mercilessly attack your Web sites, applications, and services. If you're vulnerable, you'd better discover these attacks yourself, before the black hats do. Now, there's a definitive, hands-on guide to security-testing any Web-based software: *How to Break Web Software*. In this book, two renowned experts address every category of Web software exploit: attacks on clients, servers, state, user inputs, and more. You'll master powerful attack tools and techniques as you uncover dozens of crucial, widely exploited flaws in Web architecture and coding. The authors reveal where to look for potential threats and attack vectors, how to rigorously test for each of them, and how to mitigate the problems you find. Coverage includes

- Client vulnerabilities, including attacks on client-side validation
- State-based attacks: hidden fields, CGI parameters, cookie poisoning, URL jumping, and session hijacking
- Attacks on user-supplied inputs: cross-site scripting, SQL injection, and directory traversal
- Language- and technology-based attacks: buffer overflows, canonicalization, and NULL string attacks
- Server attacks: SQL Injection with stored procedures, command injection, and server fingerprinting
- Cryptography, privacy, and attacks on Web services

Your Web software is mission-critical—it can't be compromised. Whether you're a developer, tester, QA specialist, or IT manager, this book will help you protect that software—systematically.

Build real-world, production-ready solutions by harnessing the powerful features of Go About This Book An easy-to-follow guide that provides everything a developer needs to know to build end-to-end web applications in Go Write interesting and clever, but simple code, and learn skills and techniques that are directly transferable to your own projects A practical approach to utilize application scaffolding to design highly scalable programs that are deeply rooted in go routines and channels Who This Book Is For This book is intended for developers who are new to Go, but have previous experience of building web applications and APIs. What You Will Learn Build a fully featured REST API to enable client-side single page apps Utilize TLS to build reliable and secure sites Learn to apply the nuances of the Go language to implement a wide range of start-up quality projects Create websites and data services capable of massive scale using Go's net/http package, exploring RESTful patterns as well as low-latency WebSocket APIs Interact with a variety of remote web services to consume capabilities ranging from authentication and authorization to a fully functioning thesaurus Explore the core syntaxes and language features that enable concurrency in Go Understand when and where to use concurrency to keep data consistent and applications non-blocking, responsive, and reliable Utilize advanced concurrency patterns and best practices to stay low-level without compromising the simplicity of Go itself In Detail Go is an open source programming language that makes it easy to build simple, reliable, and efficient software. It is a statically typed language with syntax loosely derived from that of C, adding garbage collection, type safety, some dynamic-typing capabilities, additional built-in types such as variable-length arrays and key-value maps, and a large standard library. This course starts with a walkthrough of the

topics most critical to anyone building a new web application. Whether it's keeping your application secure, connecting to your database, enabling token-based authentication, or utilizing logic-less templates, this course has you covered. Scale, performance, and high availability lie at the heart of the projects, and the lessons learned throughout this course will arm you with everything you need to build world-class solutions. It will also take you through the history of concurrency, how Go utilizes it, how Go differs from other languages, and the features and structures of Go's concurrency core. It will make you feel comfortable designing a safe, data-consistent, and high-performance concurrent application in Go. This course is an invaluable resource to help you understand Go's powerful features to build simple, reliable, secure, and efficient web applications. **Style and approach** This course is a step-by-step guide, which starts off with the basics of go programming to build web applications and will gradually move on to cover intermediate and advanced topics. You will be going through this smooth transition by building interesting projects along with the authors, discussing significant options, and decisions at each stage, while keeping the programs lean, uncluttered, and as simple as possible.

Most security books on Java focus on cryptography and access control, but exclude key aspects such as coding practices, logging, and web application risk assessment.

Encapsulating security requirements for web development with the Java programming platform, *Secure Java: For Web Application Development* covers secure programming, risk assessment, and threat modeling—explaining how to integrate these practices into a secure software development life cycle. From the risk assessment phase to the proof of concept phase, the book details a secure web application development process. The authors provide in-depth implementation guidance and best practices for access control, cryptography, logging, secure coding, and authentication and authorization in web application development.

Discussing the latest application exploits and vulnerabilities, they examine various options and protection mechanisms for securing web applications against these multifarious threats. The book is organized into four sections:

- Provides a clear view of the growing footprint of web applications
- Explores the foundations of secure web application development and the risk management process
- Delves into tactical web application security development with Java EE
- Deals extensively with security testing of web applications

This complete reference includes a case study of an e-commerce company facing web application security challenges, as well as specific techniques for testing the security of web applications. Highlighting state-of-the-art tools for web application security testing, it supplies valuable insight on how to meet important security compliance requirements, including PCI-DSS, PA-DSS, HIPAA, and GLBA. The book also includes an appendix that covers the application security guidelines for the payment card industry standards.

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