

Defensive Security Handbook: Best Practices For Securing Infrastructure

Cyber-physical systems (CPSs) consist of software-controlled computing devices communicating with each other and interacting with the physical world through sensors and actuators. A CPS has, therefore, two parts: The cyber part implementing most of the functionality and the physical part, i.e., the real world. Typical examples of CPS's are a water treatment plant, an unmanned aerial vehicle, and a heart pacemaker. Because most of the functionality is implemented in software, the software is of crucial importance. The software determines the functionality and many CPS properties, such as safety, security, performance, real-time behavior, etc. Therefore, avoiding safety accidents and security incidents in the CPS requires highly dependable software. Methodology Today, many methodologies for developing safe and secure software are in use. As software engineering slowly becomes disciplined and mature, generally accepted construction principles have emerged. This monograph advocates principle-based engineering for the development and operation of dependable software. No new development process is suggested, but integrating security and safety principles into existing development processes is demonstrated. Safety and Security Principles At the core of this monograph are the engineering principles. A total of 62 principles are introduced and catalogized into five categories: Business & organization, general principles, safety, security, and risk management principles. The principles are rigorous, teachable, and enforceable. The terminology used is precisely defined. The material is supported by numerous examples and enriched by illustrative quotes from celebrities in the field. Final Words «In a cyber-physical system's safety and security, any compromise is a planned disaster» Audience First, this monograph is for organizations that want to improve their methodologies to build safe and secure software for mission-critical cyber-physical systems. Second, the material is suitable for a two-semester, 4 hours/week, advanced computer science lecture at a Technical University. This textbook has been recommended and developed for university courses in Germany, Austria and Switzerland.

Blue Team defensive advice from the biggest names in cybersecurity The Tribe of Hackers team is back. This new guide is packed with insights on blue team issues from the biggest names in cybersecurity. Inside, dozens of the world's leading Blue Team security specialists show you how to harden systems against real and simulated breaches and attacks. You'll discover the latest strategies for blocking even the most advanced red-team attacks and preventing costly losses. The experts share their hard-earned wisdom, revealing what works and what doesn't in the real world of cybersecurity. Tribe of Hackers Blue Team goes beyond the bestselling, original Tribe of Hackers book and delves into detail on defensive and preventative techniques. Learn how to grapple with the issues that hands-on security experts and security managers are sure to build into their blue team exercises. Discover what it takes to get started building blue team skills Learn how you can defend against physical and technical penetration testing Understand the techniques that advanced red teamers use against high-value targets Identify the most important tools to master as a blue teamer Explore ways to harden systems against red team attacks Stand out from the competition as you work to advance your cybersecurity career Authored by leaders in cybersecurity attack and breach simulations, the Tribe of Hackers series is perfect for those new to blue team security, experienced practitioners, and cybersecurity team leaders. Tribe of Hackers Blue Team has the real-

world advice and practical guidance you need to advance your information security career and ready yourself for the blue team defense. The authoritative visual guide to Cisco Firepower Threat Defense (FTD) This is the definitive guide to best practices and advanced troubleshooting techniques for the Cisco flagship Firepower Threat Defense (FTD) system running on Cisco ASA platforms, Cisco Firepower security appliances, Firepower eXtensible Operating System (FXOS), and VMware virtual appliances. Senior Cisco engineer Nazmul Rajib draws on unsurpassed experience supporting and training Cisco Firepower engineers worldwide, and presenting detailed knowledge of Cisco Firepower deployment, tuning, and troubleshooting. Writing for cybersecurity consultants, service providers, channel partners, and enterprise or government security professionals, he shows how to deploy the Cisco Firepower next-generation security technologies to protect your network from potential cyber threats, and how to use Firepower's robust command-line tools to investigate a wide variety of technical issues. Each consistently organized chapter contains definitions of keywords, operational flowcharts, architectural diagrams, best practices, configuration steps (with detailed screenshots), verification tools, troubleshooting techniques, and FAQs drawn directly from issues raised by Cisco customers at the Global Technical Assistance Center (TAC). Covering key Firepower materials on the CCNA Security, CCNP Security, and CCIE Security exams, this guide also includes end-of-chapter quizzes to help candidates prepare.

- Understand the operational architecture of the Cisco Firepower NGFW, NGIPS, and AMP technologies
- Deploy FTD on ASA platform and Firepower appliance running FXOS
- Configure and troubleshoot Firepower Management Center (FMC)
- Plan and deploy FMC and FTD on VMware virtual appliance
- Design and implement the Firepower management network on FMC and FTD
- Understand and apply Firepower licenses, and register FTD with FMC
- Deploy FTD in Routed, Transparent, Inline, Inline Tap, and Passive Modes
- Manage traffic flow with detect-only, block, trust, and bypass operations
- Implement rate limiting and analyze quality of service (QoS)
- Blacklist suspicious IP addresses via Security Intelligence
- Block DNS queries to the malicious domains
- Filter URLs based on category, risk, and reputation
- Discover a network and implement application visibility and control (AVC)
- Control file transfers and block malicious files using advanced malware protection (AMP)
- Halt cyber attacks using Snort-based intrusion rule
- Masquerade an internal host's original IP address using Network Address Translation (NAT)
- Capture traffic and obtain troubleshooting files for advanced analysis
- Use command-line tools to identify status, trace packet flows, analyze logs, and debug messages

Understand critical cybersecurity and risk perspectives, insights, and tools for the leaders of complex financial systems and markets. This book offers guidance for decision makers and helps establish a framework for communication between cyber leaders and front-line professionals. Information is provided to help in the analysis of cyber challenges and choosing between risk treatment options. Financial cybersecurity is a complex, systemic risk challenge that includes technological and operational elements. The interconnectedness of financial systems and markets creates dynamic, high-risk environments where organizational security is greatly impacted by the level of security effectiveness of partners, counterparties, and other external organizations. The result is a high-risk environment with a growing need for cooperation between enterprises that are otherwise direct competitors. There is a new normal of continuous attack pressures that produce unprecedented enterprise threats that must be met with an array of countermeasures. Financial Cybersecurity Risk Management explores a range of cybersecurity topics impacting financial enterprises. This includes the threat and vulnerability landscape confronting the financial sector, risk assessment practices

and methodologies, and cybersecurity data analytics. Governance perspectives, including executive and board considerations, are analyzed as are the appropriate control measures and executive risk reporting. What You'll Learn Analyze the threat and vulnerability landscape confronting the financial sector Implement effective technology risk assessment practices and methodologies Craft strategies to treat observed risks in financial systems Improve the effectiveness of enterprise cybersecurity capabilities Evaluate critical aspects of cybersecurity governance, including executive and board oversight Identify significant cybersecurity operational challenges Consider the impact of the cybersecurity mission across the enterprise Leverage cybersecurity regulatory and industry standards to help manage financial services risks Use cybersecurity scenarios to measure systemic risks in financial systems environments Apply key experiences from actual cybersecurity events to develop more robust cybersecurity architectures Who This Book Is For Decision makers, cyber leaders, and front-line professionals, including: chief risk officers, operational risk officers, chief information security officers, chief security officers, chief information officers, enterprise risk managers, cybersecurity operations directors, technology and cybersecurity risk analysts, cybersecurity architects and engineers, and compliance officers

Best Practices for Securing Infrastructure

Computer Incident Response and Forensics Team Management

The ACM/IEEE/AIS/IFIP Recommendations for a Complete Curriculum in Cybersecurity

Financial Cybersecurity Risk Management

Prepper's Home Defense

Deterrence in the 21st Century—Insights from Theory and Practice

CISSP Guide to Security Essentials

This open access volume surveys the state of the field to examine whether a fifth wave of deterrence theory is emerging. Bringing together insights from world-leading experts from three continents, the volume identifies the most pressing strategic challenges, frames theoretical concepts, and describes new strategies. The use and utility of deterrence in today's strategic environment is a topic of paramount concern to scholars, strategists and policymakers. Ours is a period of considerable strategic turbulence, which in recent years has featured a renewed emphasis on nuclear weapons used in defence postures across different theatres; a dramatic growth in the scale of military cyber capabilities and the frequency with which these are used; and rapid technological progress including the proliferation of long-range strike and unmanned systems. These military-strategic developments occur in a polarized international system, where cooperation between leading powers on arms control regimes is breaking down, states widely make use of hybrid conflict strategies, and the number of internationalized intrastate proxy conflicts has quintupled over the past two decades. Contemporary conflict actors exploit a wider gamut of coercive instruments, which they apply across a wider range of domains. The prevalence of multi-domain coercion across but also beyond traditional dimensions of armed conflict raises an important question: what does effective deterrence look like in the 21st century? Answering that question requires a re-appraisal of key theoretical concepts and dominant strategies of Western and non-Western actors in order to assess how they hold up in today's world. Air Commodore Professor Dr. Frans Osinga is the Chair of the War Studies Department of the Netherlands Defence Academy and the

Special Chair in War Studies at the University Leiden. Dr. Tim Sweijts is the Director of Research at The Hague Centre for Strategic Studies and a Research Fellow at the Faculty of Military Sciences of the Netherlands Defence Academy in Breda.

Any good attacker will tell you that expensive security monitoring and prevention tools aren't enough to keep you secure. This practical book demonstrates a data-centric approach to distilling complex security monitoring, incident response, and threat analysis ideas into their most basic elements. You'll learn how to develop your own threat intelligence and incident detection strategy, rather than depend on security tools alone. Written by members of Cisco's Computer Security Incident Response Team, this book shows IT and information security professionals how to create an InfoSec playbook by developing strategy, technique, and architecture. Learn incident response fundamentals—and the importance of getting back to basics Understand threats you face and what you should be protecting Collect, mine, organize, and analyze as many relevant data sources as possible Build your own playbook of repeatable methods for security monitoring and response Learn how to put your plan into action and keep it running smoothly Select the right monitoring and detection tools for your environment Develop queries to help you sort through data and create valuable reports Know what actions to take during the incident response phase

Advance your career as an information security professional by turning theory into robust solutions to secure your organization Key Features Convert the theory of your security certifications into actionable changes to secure your organization Discover how to structure policies and procedures in order to operationalize your organization's information security strategy Learn how to achieve security goals in your organization and reduce software risk Book Description Information security and risk management best practices enable professionals to plan, implement, measure, and test their organization's systems and ensure that they're adequately protected against threats. The book starts by helping you to understand the core principles of information security, why risk management is important, and how you can drive information security governance. You'll then explore methods for implementing security controls to achieve the organization's information security goals. As you make progress, you'll get to grips with design principles that can be utilized along with methods to assess and mitigate architectural vulnerabilities. The book will also help you to discover best practices for designing secure network architectures and controlling and managing third-party identity services. Finally, you will learn about designing and managing security testing processes, along with ways in which you can improve software security. By the end of this infosec book, you'll have learned how to make your organization less vulnerable to threats and reduce the likelihood and impact of exploitation. As a result, you will be able to make an impactful change in your organization toward a higher level of information security. What you will learn Understand and operationalize risk management concepts and important security operations activities Discover how to identify, classify, and maintain information and assets Assess and mitigate vulnerabilities in information systems Determine how security control testing will be undertaken Incorporate security into the SDLC (software development life cycle) Improve the security of developed software and mitigate the risks of using unsafe software Who this book is for If you are looking to begin your career in an information security role, then this book is for you. Anyone who is studying to achieve industry-standard certification such as the CISSP or CISM, but looking for a way to convert concepts (and the seemingly endless number of acronyms) from theory into practice and start making a difference in your day-to-day work will find this book useful.

Provides instructions and guidelines for creating security strategies to protect against a potential failure of civilization, and includes tips on

perimeter security, house fortifications, firearms and weaponry, and security animals.

Protecting Systems with Data and Algorithms

Protecting Your Company and Society

Cisco Firepower Threat Defense (FTD)

Security Strategies to Protect Your Family by Any Means Necessary

Live Response, Forensic Analysis, and Monitoring

Tribe of Hackers Blue Team

Infosec Strategies and Best Practices

The Practical, Comprehensive Guide to Applying Cybersecurity Best Practices and Standards in Real Environments In *Effective Cybersecurity*, William Stallings introduces the technology, operational procedures, and management practices needed for successful cybersecurity. Stallings makes extensive use of standards and best practices documents that are often used to guide or mandate cybersecurity implementation. Going beyond these, he offers in-depth tutorials on the “how” of implementation, integrated into a unified framework and realistic plan of action. Each chapter contains a clear technical overview, as well as a detailed discussion of action items and appropriate policies. Stallings offers many pedagogical features designed to help readers master the material: clear learning objectives, keyword lists, review questions, and QR codes linking to relevant standards documents and web resources. *Effective Cybersecurity* aligns with the comprehensive Information Security Forum document “The Standard of Good Practice for Information Security,” extending ISF’s work with extensive insights from ISO, NIST, COBIT, other official standards and guidelines, and modern professional, academic, and industry literature.

- Understand the cybersecurity discipline and the role of standards and best practices
- Define security governance, assess risks, and manage strategy and tactics
- Safeguard information and privacy, and ensure GDPR compliance
- Harden systems across the system development life cycle (SDLC)
- Protect servers, virtualized systems, and storage
- Secure networks and electronic communications, from email to VoIP
- Apply the most appropriate methods for user authentication
- Mitigate security risks in supply chains and cloud environments

This knowledge is indispensable to every cybersecurity professional. Stallings presents it systematically and coherently, making it practical and actionable. The Model Rules of Professional Conduct provides an up-to-date resource for information on legal ethics. Federal, state and local courts in all jurisdictions look to the Rules for guidance in solving lawyer

malpractice cases, disciplinary actions, disqualification issues, sanctions questions and much more. In this volume, black-letter Rules of Professional Conduct are followed by numbered Comments that explain each Rule's purpose and provide suggestions for its practical application. The Rules will help you identify proper conduct in a variety of given situations, review those instances where discretionary action is possible, and define the nature of the relationship between you and your clients, colleagues and the courts.

School security is one of the most pressing public concerns today. Yet in most schools, there is little security expertise or detailed knowledge about how to implement and manage a security program. The Handbook for School Safety and Security rectifies this problem by providing the salient information school administrators and security professionals need to address the most important security issues schools face. Made up of contributions from leading experts in school security, The Handbook for School Safety and Security provides a wealth of practical information for securing any K-12 school. It discusses key approaches and best practices for school crime prevention, including such topics as crisis management and mass notification. It also covers the physical measure needed for protecting a school, including detailed discussions of access control, lighting, alarms, and locks. While there is no single fix for the myriad of security challenges facing today's school security professionals, the best practices found in The Handbook for School Safety and Security will help increase the safety and security of any school. Brings together the collective experience of industry-leading subject matter specialists into one resource. Covers all the key areas needed for developing and implementing a school security program. Includes a list of 100 things to know when developing a school security program.

The Cybersecurity Body of Knowledge explains the content, purpose, and use of eight knowledge areas that define the boundaries of the discipline of cybersecurity. The discussion focuses on, and is driven by, the essential concepts of each knowledge area that collectively capture the cybersecurity body of knowledge to provide a complete picture of the field. This book is based on a brand-new and up to this point unique, global initiative, known as CSEC2017, which was created and endorsed by ACM, IEEE-CS, AIS SIGSEC, and IFIP WG 11.8. This has practical relevance to every educator in the discipline of cybersecurity. Because the specifics of this body of knowledge cannot be imparted in a single text, the authors provide the necessary comprehensive overview. In essence, this is the entry-level survey of the comprehensive field of cybersecurity. It will serve as the roadmap for individuals to later drill down into a specific area of interest. This presentation is also explicitly designed to aid faculty members,

administrators, CISOs, policy makers, and stakeholders involved with cybersecurity workforce development initiatives. The book is oriented toward practical application of a computing-based foundation, crosscutting concepts, and essential knowledge and skills of the cybersecurity discipline to meet workforce demands. Dan Shoemaker, PhD, is full professor, senior research scientist, and program director at the University of Detroit Mercy's Center for Cyber Security and Intelligence Studies. Dan is a former chair of the Cybersecurity & Information Systems Department and has authored numerous books and journal articles focused on cybersecurity. Anne Kohnke, PhD, is an associate professor of cybersecurity and the principle investigator of the Center for Academic Excellence in Cyber Defence at the University of Detroit Mercy. Anne's research is focused in cybersecurity, risk management, threat modeling, and mitigating attack vectors. Ken Sigler, MS, is a faculty member of the Computer Information Systems (CIS) program at the Auburn Hills campus of Oakland Community College in Michigan. Ken's research is in the areas of software management, software assurance, and cybersecurity.

Know Your Network

Crafting the InfoSec Playbook

Security Monitoring and Incident Response Master Plan

Configuration and Troubleshooting Best Practices for the Next-Generation Firewall (NGFW), Next-Generation Intrusion Prevention System (NGIPS), and Advanced Malware Protection (AMP)

Web Application Security

Develop a threat model and incident response strategy to build a strong information security framework

The Cybersecurity Body of Knowledge

Implement information security effectively as per your organization's needs. About This Book Learn to build your own information security framework, the best fit for your organization Build on the concepts of threat modeling, incidence response, and security analysis Practical use cases and best practices for information security Who This Book Is For This book is for security analysts and professionals who deal with security mechanisms in an organization. If you are looking for an end to end guide on information security and risk analysis with no prior knowledge of this domain, then this book is for you. What You Will Learn Develop your own information security framework Build your incident response mechanism Discover cloud security considerations Get to know the system development life cycle Get your security operation center up and running Know the various security testing types Balance security as per your business needs Implement information security best practices In Detail Having an information security mechanism is one of the most crucial factors for any organization. Important assets of organization demand a proper risk management and threat model for security, and so information security concepts are gaining

a lot of traction. This book starts with the concept of information security and shows you why it's important. It then moves on to modules such as threat modeling, risk management, and mitigation. It also covers the concepts of incident response systems, information rights management, and more. Moving on, it guides you to build your own information security framework as the best fit for your organization. Toward the end, you'll discover some best practices that can be implemented to make your security framework strong. By the end of this book, you will be well-versed with all the factors involved in information security, which will help you build a security framework that is a perfect fit your organization's requirements. Style and approach This book takes a practical approach, walking you through information security fundamentals, along with information security best practices.

Computer Incident Response and Forensics Team Management provides security professionals with a complete handbook of computer incident response from the perspective of forensics team management. This unique approach teaches readers the concepts and principles they need to conduct a successful incident response investigation, ensuring that proven policies and procedures are established and followed by all team members. Leighton R. Johnson III describes the processes within an incident response event and shows the crucial importance of skillful forensics team management, including when and where the transition to forensics investigation should occur during an incident response event. The book also provides discussions of key incident response components. Provides readers with a complete handbook on computer incident response from the perspective of forensics team management Identify the key steps to completing a successful computer incident response investigation Defines the qualities necessary to become a successful forensics investigation team member, as well as the interpersonal relationship skills necessary for successful incident response and forensics investigation teams

Agile continues to be the most adopted software development methodology among organizations worldwide, but it generally hasn't integrated well with traditional security management techniques. And most security professionals aren't up to speed in their understanding and experience of agile development. To help bridge the divide between these two worlds, this practical guide introduces several security tools and techniques adapted specifically to integrate with agile development. Written by security experts and agile veterans, this book begins by introducing security principles to agile practitioners, and agile principles to security practitioners. The authors also reveal problems they encountered in their own experiences with agile security, and how they worked to solve them. You'll learn how to: Add security practices to each stage of your existing development lifecycle Integrate security with planning, requirements, design, and at the code level Include security testing as part of your team's effort to deliver working software in each release Implement regulatory compliance in an agile or DevOps environment Build an effective security program through a culture of empathy, openness, transparency, and collaboration 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

Secure Operations Technology

Building Secure Systems in Untrusted Networks

Engineering dependable Software using Principle-based Development

Perl Scripting for Windows Security

Tribal Knowledge from the Best in Defensive Cybersecurity

Model Rules of Professional Conduct

Insider Threat

A practical handbook to cybersecurity for both tech and non-tech professionals As reports of major data breaches fill the headlines, it has become impossible for any business, large or small, to ignore the importance of cybersecurity. Most books on the subject, however, are either too specialized for the non-technical professional or too general for positions in the IT trenches. Thanks to author Nadean Tanner ' s wide array of experience from teaching at a University to working for the Department of Defense, the Cybersecurity Blue Team Toolkit strikes the perfect balance of substantive and accessible, making it equally useful to those in IT or management positions across a variety of industries. This handy guide takes a simple and strategic look at best practices and tools available to both cybersecurity management and hands-on professionals, whether they be new to the field or looking to expand their expertise. Tanner gives comprehensive coverage to such crucial topics as security assessment and configuration, strategies for protection and defense, offensive measures, and remediation while aligning the concept with the right tool using the CIS Controls version 7 as a guide. Readers will learn why and how to use fundamental open source and free tools such as ping, tracer, PuTTY, pathping, sysinternals, NMAP, OpenVAS, Nexpose Community, OSSEC, Hamachi, InSSIDer, Nexpose Community, Wireshark, Solarwinds Kiwi Syslog Server, Metasploit, Burp, Clonezilla and many more. Up-to-date and practical cybersecurity instruction, applicable to both management and technical positions • Straightforward explanations of the theory behind cybersecurity best practices • Designed to be an easily navigated tool for daily use • Includes training appendix on Linux, how to build a virtual lab and glossary of key terms The Cybersecurity Blue Team Toolkit is an excellent resource for anyone working in digital policy as well as IT security professionals, technical analysts, program managers, and Chief Information and Technology Officers. This is one handbook that won ' t gather dust on the shelf, but remain a valuable reference at any career level, from student to executive.

A practical handbook for network administrators who need to develop and implement security assessment programs, exploring a variety of offensive technologies, explaining how to design and deploy networks that are immune to offensive tools and

scripts, and detailing an efficient testing model. Original. (Intermediate)

Are you satisfied with the way your company responds to IT incidents? How prepared is your response team to handle critical, time-sensitive events such as service disruptions and security breaches? IT professionals looking for effective response models have successfully adopted the Incident Management System (IMS) used by firefighters throughout the US. This practical book shows you how to apply the same response methodology to your own IT operation. You ' ll learn how IMS best practices for leading people and managing time apply directly to IT incidents where the stakes are high and outcomes are uncertain.

More than a million people visit Vancouver Island by air and sea each year, three quarters of them from outside Canada. Besides detailed coverage of Victoria, Eric Lucas gives wide-ranging context to the island ' s culture, cuisine, and arts. There ' s also a wealth of practical information to help you plan your stay in this land of natural wonders.

Conducting a Successful Incident Response

Effective techniques to secure your Windows, Linux, IoT, and cloud infrastructure

Occupational Outlook Handbook

Building Secure and Reliable Systems

Network Security Assessment

Solving Cyber Risk

Best Practices and Procedures

Every type of organization is vulnerable to insider abuse, errors, and malicious attacks: Grant anyone access to a system and you automatically introduce a vulnerability. Insiders can be current or former employees, contractors, or other business partners who have been granted authorized access to networks, systems, or data, and all of them can bypass security measures through legitimate means. Insider Threat – A Guide to Understanding, Detecting, and Defending Against the Enemy from Within shows how a security culture based on international best practice can help mitigate the insider threat, providing short-term quick fixes and long-term solutions that can be applied as part of an effective insider threat program. Read this book to learn the seven organizational characteristics common to insider threat victims; the ten stages of a malicious attack; the ten steps of a successful insider threat program; and the construction of a three-tier security culture, encompassing artefacts, values, and shared assumptions. Perhaps most importantly, it also sets out what not to do, listing a set of worst practices that should be avoided. About the author Dr Julie Mehan is the founder and president of JEMStone Strategies and a principal in a strategic consulting firm in Virginia. She has delivered cybersecurity and related privacy services to senior commercial, Department of Defense, and federal government clients. Dr Mehan is also an associate professor at the University of Maryland University College, specializing in courses in cybersecurity, cyberterror, IT in organizations, and ethics in an Internet society CISSP GUIDE TO SECURITY ESSENTIALS, Second Edition, provides complete, focused coverage to prepare students and professionals alike for success on the Certified Information Systems Security Professional (CISSP) certification exam. The text opens with an overview of the current state of information security, including relevant legislation and standards, before proceeding to explore all ten CISSP domains in great detail, from security architecture and design to access control and cryptography. Each chapter opens with a brief review of relevant theory and concepts, followed by a

strong focus on real-world applications and learning tools designed for effective exam preparation, including key terms, chapter summaries, study questions, hands-on exercises, and case projects. Developed by the author of more than 30 books on information security the Second Edition of this trusted text has been updated to reflect important new developments in technology and industry practices, providing an accurate guide to the entire CISSP common body of knowledge. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

The cyber security of vital infrastructure and services has become a major concern for countries worldwide. The members of NATO are no exception, and they share a responsibility to help the global community to strengthen its cyber defenses against malicious cyber activity. This book presents 10 papers and 21 specific findings from the NATO Advanced Research Workshop (ARW) ' Best Practices in Computer Network Defense (CND): Incident Detection and Response, held in Geneva, Switzerland, in September 2013. The workshop was attended by a multi-disciplinary team of experts from 16 countries and three international institutions. The book identifies the state-of-the-art tools and processes being used for cyber defense and highlights gaps in the technology. It presents the best practice of industry and government for incident detection and response and examines indicators and metrics for progress along the security continuum. This book provides those operators and decision makers whose work it is to strengthen the cyber defenses of the global community with genuine tools and expert advice. Keeping pace and deploying advanced process or technology is only possible when you know what is available. This book shows what is possible and available today for computer network defense and for incident detection and response.

I decided to write this book for a couple of reasons. One was that I ' ve now written a couple of books that have to do with incident response and forensic analysis on Windows systems, and I used a lot of Perl in both books. Okay...I ' ll come clean...I used nothing but Perl in both books! What I ' ve seen as a result of this is that many readers want to use the tools, but don ' t know how...they simply aren ' t familiar with Perl, with interpreted (or scripting) languages in general, and may not be entirely comfortable with running tools at the command line. This book is intended for anyone who has an interest in useful Perl scripting, in particular on the Windows platform, for the purpose of incident response, and forensic analysis, and application monitoring. While a thorough grounding in scripting languages (or in Perl specifically) is not required, it helpful in fully and more completely understanding the material and code presented in this book. This book contains information that is useful to consultants who perform incident response and computer forensics, specifically as those activities pertain to MS Windows systems (Windows 2000, XP, 2003, and some Vista). My hope is that not only will consultants (such as myself) find this material valuable, but so will system administrators, law enforcement officers, and students in undergraduate and graduate programs focusing on computer forensics. *Perl Scripting for Live Response Using Perl, there ' s a great deal of information you can retrieve from systems, locally or remotely, as part of troubleshooting or investigating an issue. Perl scripts can be run from a central management point, reaching out to remote systems in order to collect information, or they can be "compiled" into standalone executables using PAR, PerlApp, or Perl2Exe so that they can be run on systems that do not have ActiveState ' s Perl distribution (or any other Perl distribution) installed. *Perl Scripting for Computer Forensic Analysis Perl is an extremely useful and powerful tool for performing computer forensic analysis. While there are applications available that let an examiner access acquired images and perform some modicum of visualization, there are relatively few tools that meet the specific needs of a specific examiner working on a specific case. This is where the use of Perl really shines through and becomes

apparent. *Perl Scripting for Application Monitoring Working with enterprise-level Windows applications requires a great deal of analysis and constant monitoring. Automating the monitoring portion of this effort can save a great deal of time, reduce system downtimes, and improve the reliability of your overall application. By utilizing Perl scripts and integrating them with the application technology, you can easily build a simple monitoring framework that can alert you to current or future application issues.

Effective Cybersecurity

A Guide to Using Best Practices and Standards

Network Monitoring and Analysis

Best Practices for Designing, Implementing, and Maintaining Systems

Best Practices in Computer Network Defense: Incident Detection and Response

Secure by Design

Mobile Malware Attacks and Defense

Defensive Security Handbook Best Practices for Securing Infrastructure "O'Reilly Media, Inc."

IT-SEC protects the information. SEC-OT protects physical, industrial operations from information, more specifically from attacks embedded in information. When the consequences of compromise are unacceptable - unscheduled downtime, impaired product quality and damaged equipment - software-based IT-SEC defences are not enough. Secure Operations Technology (SEC-OT) is a perspective, a methodology, and a set of best practices used at secure industrial sites. SEC-OT demands cyber-physical protections - because all software can be compromised. SEC-OT strictly controls the flow of information - because all information can encode attacks. SEC-OT uses a wide range of attack capabilities to determine the strength of security postures - because nothing is secure. This book documents the Secure Operations Technology approach, including physical offline and online protections against cyber attacks and a set of twenty standard cyber-attack patterns to use in risk assessments.

Can machine learning techniques solve our computer security problems and finally put an end to the cat-and-mouse game between attackers and defenders? Or is this hope merely hype? Now you can dive into the science and answer this question for yourself! With this practical guide, you'll explore ways to apply machine learning to security issues such as intrusion detection, malware classification, and network analysis. Machine learning and security specialists Clarence Chio and David Freeman provide a framework for discussing the marriage of these two fields, as well as a toolkit of machine-learning algorithms that you can apply to an array of security problems. This book is ideal for security engineers and data scientists alike. Learn how machine learning has

contributed to the success of modern spam filters Quickly detect anomalies, including breaches, fraud, and impending system failure Conduct malware analysis by extracting useful information from computer binaries Uncover attackers within the network by finding patterns inside datasets Examine how attackers exploit consumer-facing websites and app functionality Translate your machine learning algorithms from the lab to production Understand the threat attackers pose to machine learning solutions

As a developer, you need to build software in a secure way. But you can't spend all your time focusing on security. The answer is to use good design principles, tools, and mindsets that make security an implicit result - it's secure by design. Secure by Design teaches developers how to use design to drive security in software development. This book is full of patterns, best practices, and mindsets that you can directly apply to your real world development. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Safety and Security of Cyber-Physical Systems

Agile Application Security

A Guide for Secure Design and Deployment

Enabling Security in a Continuous Delivery Pipeline

Computer and Information Security Handbook

A Guide to Understanding, Detecting, and Defending Against the Enemy from Within

Cybersecurity Blue Team Toolkit

The non-technical handbook for cyber security risk management Solving Cyber Risk distills a decade of research into a practical framework for cyber security. Blending statistical data and cost information with research into the culture, psychology, and business models of the hacker community, this book provides business executives, policy-makers, and individuals with a deeper understanding of existing future threats, and an action plan for safeguarding their organizations. Key Risk Indicators reveal vulnerabilities based on organization type, IT infrastructure and existing security measures, while expert discussion from leading cyber risk specialists details practical, real-world methods of risk reduction and mitigation. By the nature of the business, your organization's customer database is packed with highly sensitive information that is essentially hacker-bait, and even a minor flaw in security protocol could spell disaster. This book takes you deep into the cyber threat landscape to show you how to keep your data secure. Understand who is carrying out cyber-attacks, and why Identify your

organization's risk of attack and vulnerability to damage Learn the most cost-effective risk reduction measures Adopt a new cyber risk assessment and quantification framework based on techniques used by the insurance industry By applying risk management principles to cyber security, non-technical leadership gains a greater understanding of the types of threat, level of threat, and level of investment needed to fortify the organization against attack. Just because you have not been hit does not mean your data is safe, and hackers rely on their targets' complacency to help maximize their haul. Solving Cyber Risk gives you a concrete action plan for implementing top-notch preventative measures before you're forced to implement damage control.

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

Computer and Information Security Handbook, Third Edition, provides the most current and complete reference on computer security available in one volume. The book offers deep coverage of an extremely wide range of issues in computer and cybersecurity theory, applications, and best practices, offering the latest insights into established and emerging technologies and advancements. With new parts devoted to such current topics as Cloud Security, Cyber-Physical Security, and Critical Infrastructure Security, the book now has 100 chapters written by leading

experts in their fields, as well as 12 updated appendices and an expanded glossary. It continues its successful format of offering problem-solving techniques that use real-life case studies, checklists, hands-on exercises, question and answers, and summaries. Chapters new to this edition include such timely topics as Cyber Warfare, Endpoint Security, Ethical Hacking, Internet of Things Security, Nanoscale Networking and Communications Security, Social Engineering, System Forensics, Wireless Sensor Network Security, Verifying User and Host Identity, Detecting System Intrusions, Insider Threats, Security Certification and Standards Implementation, Metadata Forensics, Hard Drive Imaging, Context-Aware Multi-Factor Authentication, Cloud Security, Protecting Virtual Infrastructure, Penetration Testing, and much more. Written by leaders in the field Comprehensive and up-to-date coverage of the latest security technologies, issues, and best practices Presents methods for analysis, along with problem-solving techniques for implementing practical solutions

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 Gain proficiency in information security using expert-level strategies and best practices Network Defense and Countermeasures

A Protocol Approach to Troubleshooting

NL ARMS Netherlands Annual Review of Military Studies 2020

The Cybersecurity Manager's Guide

Leadership Perspectives and Guidance for Systems and Institutions

Everything you need to know about modern network attacks and defense, in one book Clearly explains core network security concepts, challenges, technologies, and skills Thoroughly updated for the latest attacks and countermeasures The perfect beginner's guide for anyone interested in a network security career ; Security is the IT industry's hottest topic—and that's where the hottest opportunities are, too. Organizations desperately need professionals who can help them safeguard against the most sophisticated attacks ever created—attacks from well-funded global criminal syndicates, and even governments. ; Today, security begins with defending the organizational network. Network Defense and Countermeasures, Second Edition is today's most complete, easy-to-understand introduction to modern network attacks and their effective defense. From malware and DDoS attacks to firewalls and encryption, Chuck Easttom blends theoretical foundations with up-to-the-minute best-practice techniques. Starting with the absolute basics, he discusses crucial topics many security books overlook, including the emergence of network-based espionage and terrorism. ; If you have a basic understanding of networks, that's all the background you'll need to succeed with this book: no math or advanced computer science is required. You'll find projects, questions, exercises, case studies, links to expert resources, and a complete glossary—all designed to deepen your understanding and prepare you to defend real-world networks. ; Learn how to Understand essential network security concepts, challenges, and careers Learn how modern attacks work Discover how firewalls, intrusion detection systems (IDS), and virtual private networks (VPNs) combine to protect modern networks Select the right security technologies for any network environment Use encryption to protect information Harden Windows and Linux systems and keep them patched Securely configure web browsers to resist attacks Defend against malware Define practical, enforceable security policies Use the "6 Ps" to assess technical and human aspects of system security Detect and fix system vulnerability Apply proven security standards and models, including Orange Book, Common Criteria, and Bell-LaPadula Ensure physical security and prepare for disaster recovery Know your enemy: learn basic hacking, and see how to counter it Understand standard forensic techniques and prepare for investigations of digital crime ;

Malware has gone mobile, and the security landscape is changing quickly with emerging attacks on cell phones, PDAs, and other mobile devices. This first book on the growing threat covers a wide range of malware targeting operating systems like Symbian and new devices like the iPhone. Examining code in past, current, and future risks, protect your banking, auctioning, and other activities performed on mobile devices. * Visual Payloads View attacks as visible to the end user, including notation of variants. * Timeline of Mobile Hoaxes and Threats Understand the history of major attacks

and horizon for emerging threats. * Overview of Mobile Malware Families Identify and understand groups of mobile malicious code and their variations. * Taxonomy of Mobile Malware Bring order to known samples based on infection, distribution, and payload strategies. * Phishing, SMishing, and Vishing Attacks Detect and mitigate phone-based phishing (vishing) and SMS phishing (SMishing) techniques. * Operating System and Device Vulnerabilities Analyze unique OS security issues and examine offensive mobile device threats. * Analyze Mobile Malware Design a sandbox for dynamic software analysis and use MobileSandbox to analyze mobile malware. * Forensic Analysis of Mobile Malware Conduct forensic analysis of mobile devices and learn key differences in mobile forensics. * Debugging and Disassembling Mobile Malware Use IDA and other tools to reverse-engineer samples of malicious code for analysis. * Mobile Malware Mitigation Measures Qualify risk, understand threats to mobile assets, defend against attacks, and remediate incidents. * Understand the History and Threat Landscape of Rapidly Emerging Mobile Attacks * Analyze Mobile Device/Platform Vulnerabilities and Exploits * Mitigate Current and Future Mobile Malware Threats

With their rapidly changing architecture and API-driven automation, cloud platforms come with unique security challenges and opportunities. This hands-on book guides you through security best practices for multivendor cloud environments, whether your company plans to move legacy on-premises projects to the cloud or build a new infrastructure from the ground up. Developers, IT architects, and security professionals will learn cloud-specific techniques for securing popular cloud platforms such as Amazon Web Services, Microsoft Azure, and IBM Cloud. Chris Dotson—an IBM senior technical staff member—shows you how to establish data asset management, identity and access management, vulnerability management, network security, and incident response in your cloud environment.

If you're a leader in Cybersecurity, then you know it often seems like no one cares about--or understands--information security. Infosec professionals struggle to integrate security into their companies. Most are under resourced. Most are at odds with their organizations. There must be a better way. This essential manager's guide offers a new approach to building and maintaining an information security program that's both effective and easy to follow. Author and longtime infosec leader Todd Barnum upends the assumptions security professionals take for granted. CISOs, CSOs, CIOs, and IT security professionals will learn a simple seven-step process that will help you build a new program or improve your current program. Build better relationships with IT and other teams within your organization Align your role with your company's values, culture, and tolerance for information loss Lay the groundwork for your security program Create a communications program to share your team's contributions and educate your coworkers Transition security functions and responsibilities to other teams Organize and build an effective infosec team Measure your progress with two key metrics: your staff's ability to recognize and report security policy violations and phishing emails.

Mastering Defensive Security

Incident Management for Operations

Exploitation and Countermeasures for Modern Web Applications

The Handbook for School Safety and Security

Principles and Practices

Zero Trust Networks

Information Security Handbook

An immersive learning experience enhanced with technical, hands-on labs to understand the concepts, methods, tools, platforms, and systems required to master the art of cybersecurity

Key Features Get hold of the best defensive security strategies and tools Develop a defensive security strategy at an enterprise level Get hands-on with advanced cybersecurity threat detection, including XSS, SQL injections, brute forcing web applications, and more

Book Description Every organization has its own data and digital assets that need to be protected against an ever-growing threat landscape that compromises the availability, integrity, and confidentiality of crucial data. Therefore, it is important to train professionals in the latest defensive security skills and tools to secure them. Mastering Defensive Security provides you with in-depth knowledge of the latest cybersecurity threats along with the best tools and techniques needed to keep your infrastructure secure. The book begins by establishing a strong foundation of cybersecurity concepts and advances to explore the latest security technologies such as Wireshark, Damn Vulnerable Web App (DVWA), Burp Suite, OpenVAS, and Nmap, hardware threats such as a weaponized Raspberry Pi, and hardening techniques for Unix, Windows, web applications, and cloud infrastructures. As you make progress through the chapters, you'll get to grips with several advanced techniques such as malware analysis, security automation, computer forensics, and vulnerability assessment, which will help you to leverage pentesting for security. By the end of this book, you'll have become familiar with creating your own defensive security tools using IoT devices and developed advanced defensive security skills. What you will learn

Become well versed with concepts related to defensive security Discover strategies and tools to secure the most vulnerable factor – the user Get hands-on experience using and configuring the best security tools Understand how to apply hardening techniques in Windows and Unix environments Leverage malware analysis and forensics to enhance your security strategy Secure Internet of Things (IoT) implementations Enhance the security of web applications and cloud deployments

Who this book is for This book is for all IT professionals who want to take their first steps into the world of defensive security; from system admins and programmers to data analysts and data scientists with an interest in security. Experienced cybersecurity professionals working on broadening their knowledge and keeping up to date with the latest defensive developments will also find plenty of useful information in this book. You'll need a basic understanding of networking, IT, servers, virtualization, and cloud platforms before you get started with this book.

The perimeter defenses guarding your network perhaps are not as secure as you think. Hosts behind the firewall have no defenses of their own, so when a host in the "trusted" zone is breached, access to your data center is not far behind. That's an all-too-familiar scenario today. With this practical book, you'll learn the principles behind zero trust architecture, along with details necessary to implement it. The Zero Trust Model

treats all hosts as if they're internet-facing, and considers the entire network to be compromised and hostile. By taking this approach, you'll focus on building strong authentication, authorization, and encryption throughout, while providing compartmentalized access and better operational agility. Understand how perimeter-based defenses have evolved to become the broken model we use today Explore two case studies of zero trust in production networks on the client side (Google) and on the server side (PagerDuty) Get example configuration for open source tools that you can use to build a zero trust network Learn how to migrate from a perimeter-based network to a zero trust network in production

Defensive Security Handbook

Practical Cloud Security

Machine Learning and Security