

## Thales Hsm Documentation

The Most Complete, Practical, and Actionable Guide to Microservices Going beyond mere theory and marketing hype, Eberhard Wolff presents all the knowledge you need to capture the full benefits of this emerging paradigm. He illuminates microservice concepts, architectures, and scenarios from a technology-neutral standpoint, and demonstrates how to implement them with today's leading technologies such as Docker, Java, Spring Boot, the Netflix stack, and Spring Cloud. The author fully explains the benefits and tradeoffs associated with microservices, and guides you through the entire project lifecycle: development, testing, deployment, operations, and more. You'll find best practices for architecting microservice-based systems, individual microservices, and nanoservices, each illuminated with pragmatic examples. The author supplements opinions based on his experience with concise essays from other experts, enriching your understanding and illuminating areas where experts disagree. Readers are challenged to experiment on their own the concepts explained in the book to gain hands-on experience. Discover what microservices are, and how they differ from other forms of modularization Modernize legacy applications and efficiently build new systems Drive more value from continuous delivery with microservices Learn how microservices differ from SOA Optimize the microservices project lifecycle Plan, visualize, manage, and evolve architecture Integrate and communicate among microservices Apply advanced architectural techniques, including CQRS and Event Sourcing Maximize resilience and stability Operate and monitor microservices in production Build a full implementation with Docker, Java, Spring Boot, the Netflix stack, and Spring Cloud Explore nanoservices with Amazon Lambda, OSGi, Java EE, Vert.x, Erlang, and Seneca Understand microservices' impact on teams, technical leaders, product owners, and stakeholders Managers will discover better ways to support microservices, and learn how adopting the method affects the entire organization. Developers will master the technical skills and concepts they need to be effective. Architects will gain a deep understanding of key issues in creating or migrating toward microservices, and exactly what it will take to transform their plans into reality.

This Handbook presents a complete and rigorous overview of the fundamentals, methods and applications of the multidisciplinary field of Global Navigation Satellite Systems (GNSS), providing an exhaustive, one-stop reference work and a state-of-the-art description of GNSS as a key technology for science and society at large. All global and regional satellite navigation systems, both those currently in operation and those under development (GPS, GLONASS, Galileo, BeiDou, QZSS, IRNSS/NAVIC, SBAS), are examined in detail. The functional principles of receivers and antennas, as well as the advanced algorithms and models for GNSS parameter estimation, are rigorously discussed. The book covers the broad and diverse range of land, marine, air and space applications, from everyday GNSS to high-precision scientific applications and provides detailed descriptions of the most widely used GNSS format standards, covering receiver formats as well as IGS product and meta-data formats. The full coverage of the field of GNSS is presented in seven parts, from its fundamentals, through the treatment of global and regional navigation satellite systems, of receivers and antennas, and of algorithms and models, up to the broad and diverse range of applications in the areas of positioning and navigation, surveying, geodesy and geodynamics, and remote sensing and timing. Each chapter is written by international experts and amply illustrated with figures and photographs, making the book an invaluable resource for scientists, engineers, students and institutions alike.

This IBM® Redbooks® publication provides advice and technical information about optimizing and tuning application code to run on systems that are based on the IBM POWER7® and POWER7+™ processors. This advice is drawn from application optimization efforts across many different types of code that runs under the IBM AIX® and Linux operating systems, focusing on the more pervasive performance opportunities that are identified, and how to capitalize on them. The technical information was developed by a set of domain experts at IBM. The focus of this book is to gather the right technical information, and lay out simple guidance for optimizing code performance on the IBM POWER7 and POWER7+ systems that run the AIX or Linux operating systems. This book contains a large amount of straightforward performance optimization that can be performed with minimal effort and without previous experience or in-depth knowledge. This optimization work can: Improve the performance of the application that is being optimized for the POWER7 system Carry over improvements to systems that are based on related processor chips Improve performance on other platforms The audience of this book is those personnel who are responsible for performing migration and implementation activities on IBM POWER7-based servers, which includes system administrators, system architects, network administrators, information architects, and database administrators (DBAs).

By the dawn of the new millennium, robotics has undergone a major transformation in scope and dimensions. This expansion has been brought about by the maturity of the field and the advances in its related technologies. From a largely dominant industrial focus, robotics has been rapidly expanding into the challenges of the human world. The new generation of robots is expected to safely and dependably co-habitat with humans in homes, workplaces, and communities, providing support in services, entertainment, education, healthcare, manufacturing, and assistance. Beyond its impact on physical robots, the body of knowledge robotics has produced is revealing a much wider range of applications reaching across diverse research areas and scientific disciplines, such as: biomechanics, haptics, neurosciences, virtual simulation, animation, surgery, and sensor networks among others. In return, the challenges of the new emerging areas are proving an abundant source of stimulation and insights for the field of robotics. It is indeed at the intersection of disciplines that the most striking advances happen. The goal of the series of Springer Tracts in Advanced Robotics (STAR) is to bring, in a timely fashion, the latest advances and developments in robotics on the basis of their significance and quality. It is our hope that the wider dissemination of research developments will stimulate more exchanges and collaborations among the research community and contribute to further advancement of this rapidly growing field.

At a time when crime scene television shows are all the rage amongst the civilian population, knowledge of firearm forensics is of paramount importance to crime scene analysts, police detectives, and attorneys for both the prosecution and the defense. Cartridges and Firearm Identification brings together a unique, multidisciplinary approach to quest

NIST SP 1800-16 a & b DRAFT released 29 November 2018 Transport Layer Security (TLS) is the security protocol used to authenticate and protect internet and internal network communications for a broad number of other protocols--including Hypertext Transfer Protocol (http) for web servers; Lightweight Directory Access Protocol (LDAP) for directory servers; and Simple Mail Transfer Protocol, Post Office Protocol, and Internet Message Access Protocol for email. Organizations risk losing revenue, customers, and reputation, and exposing internal or customer data to attackers if they do not properly manage TLS server certificates. TLS is the most widely used security protocol to secure web transactions and other communications on the internet and internal networks. TLS server certificates are central to the security and operation of internet-facing and internal web services. Improper TLS server certificate management results in significant outages to web applications and services--such as government services, online banking, flight operations, and mission-critical services within an organization--and the risk of security breaches. Why buy a book you can download for free? We print this book so you don't have to. First you gotta find a good clean (legible) copy and make sure it's the latest version (not always easy). Some documents found on the web are missing some pages or the image quality is so poor, they are difficult to read. We look over each document carefully and replace poor quality images by going back to the original source document. We proof each document to make sure it's all there - including all changes. If you find a good copy, you could print it using a network printer you share with 100 other people (typically its either out of paper or toner). If it's just a 10-page document, no problem, but if it's 250-pages, you will need to punch 3 holes in all those pages and put it in a 3-ring binder. Takes at least an hour. It's much more cost-effective to just order the latest version from Amazon.com This book

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There's a lot of information about big data technologies, but splicing these technologies into an end-to-end enterprise data platform is a daunting task not widely covered. With this practical book, you'll learn how to build big data infrastructure both on-premises and in the cloud and successfully architect a modern data platform. Ideal for enterprise architects, IT managers, application architects, and data engineers, this book shows you how to overcome the many challenges that emerge during Hadoop projects. You'll explore the vast landscape of tools available in the Hadoop and big data realm in a thorough technical primer before diving into: Infrastructure: Look at all component layers in a modern data platform, from the server to the data center, to establish a solid foundation for data in your enterprise Platform: Understand aspects of deployment, operation, security, high availability, and disaster recovery, along with everything you need to know to integrate your platform with the rest of your enterprise IT Taking Hadoop to the cloud: Learn the important architectural aspects of running a big data platform in the cloud while maintaining enterprise security and high availability

The birth of the West stems from the rejection of tradition. All our evidence for this influence comes from the Axial period, 800-400 BCE. Baruch Halpern explores the impact of changing cosmologies and social relations on cultural change in that era, especially from Mesopotamia to Israel and Greece, but extending across the Mediterranean, not least to Egypt and Italy. In this volume he shows how an explosion of international commerce and exchange, which can be understood as a Renaissance, led to the redefinition of selfhood in various cultures and to Reformation. The process inevitably precipitated an Enlightenment. This has happened over and over in human history and in academic or cultural fields. It is the basis of modernization, or Westernization, wherever it occurs, and whatever form it takes. Irrespective of whether we use economic or societal metrics, the Internet is one of the most important technical infrastructures in existence today. It will serve as a catalyst for much of our innovation and prosperity in the future. A competitive Europe will require Internet connectivity and services beyond the capabilities offered by current technologies. Future Internet research is therefore a must. The Future Internet Assembly (FIA) is a successful and unique bi-annual conference that brings together participants of over 150 projects from several distinct but interrelated areas in the EU Framework Programme 7. The 20 full papers included in this volume were selected from 40 submissions, and are preceded by a vision paper describing the FIA Roadmap. The papers have been organized into topical sections on the foundations of Future Internet, the applications of Future Internet, Smart Cities, and Future Internet infrastructures.

This book provides a broad overview of the many card systems and solutions that are in practical use today. This new edition adds content on RFIDs, embedded security, attacks and countermeasures, security evaluation, javacards, banking or payment cards, identity cards and passports, mobile systems security, and security management. A step-by-step approach educates the reader in card types, production, operating systems, commercial applications, new technologies, security design, attacks, application development, deployment and lifecycle management. By the end of the book the reader should be able to play an educated role in a smart card related project, even to programming a card application. This book is designed as a textbook for graduate level students in computer science. It is also as an invaluable post-graduate level reference for professionals and researchers. This volume offers insight into benefits and pitfalls of diverse industry, government, financial and logistics aspects while providing a sufficient level of technical detail to support technologists, information security specialists, engineers and researchers.

This book constitutes the proceedings of the 19th International Conference on Cryptographic Hardware and Embedded Systems, CHES 2017, held in Taipei, Taiwan, in September 2017. The 33 full papers presented in this volume were carefully reviewed and selected from 130 submissions. The annual CHES conference highlights new results in the design and analysis of cryptographic hardware and software implementations. The workshop builds a valuable bridge between the research and cryptographic engineering communities and attracts participants from industry, academia, and government organizations. Get in-depth guidance for designing and implementing certificate-based security solutions—straight from PKI expert Brian Komar. No need to buy or outsource costly PKI services when you can use the robust PKI and certificate-based security services already built into Windows Server 2008! This in-depth reference teaches you how to design and implement even the most demanding certificate-based security solutions for wireless networking, smart card authentication, VPNs, secure email, Web SSL, EFS, and code-signing applications using Windows Server PKI and certificate services. A principal PKI consultant to Microsoft, Brian shows you how to incorporate best practices, avoid common design and implementation mistakes, help minimize risk, and optimize security administration.

This book constitutes the proceedings of the Workshops held in conjunction with SAFECOMP 2020, 39th International Conference on Computer Safety, Reliability and Security, Lisbon, Portugal, September 2020. The 26 regular papers included in this volume were carefully reviewed and selected from 45 submissions; the book also contains one invited paper. The workshops included in this volume are: DECSoS 2020: 15th Workshop on Dependable Smart Embedded and Cyber-Physical Systems and Systems-of-Systems. DepDevOps 2020: First International Workshop on Dependable Development-Operation Continuum Methods for Dependable Cyber-Physical Systems. USDAI 2020: First International Workshop on Underpinnings for Safe Distributed AI. WAISE 2020: Third International Workshop on Artificial Intelligence Safety Engineering. The workshops were held virtually due to the COVID-19 pandemic.

This IBM® Redbooks® publication provides a general explanation of data protection through encryption and IBM Z® pervasive encryption with a focus on Linux on IBM Z encryption for data at-rest. It also describes how the various hardware and software components interact in a Linux on Z encryption environment for . In addition, this book concentrates on the planning and preparing of the environment. It offers implementation, configuration, and operational examples that can be used in Linux on Z volume encryption environments. This publication is intended for IT architects, system administrators, and security administrators who plan for, deploy, and manage security on the Z platform. The reader is expected to have a basic understanding of IBM Z security concepts.

Managed Code Rootkits is the first book to cover application-level rootkits and other types of malware inside the application VM, which runs a platform-independent programming environment for processes. The book, divided into four parts, points out high-level attacks, which are developed in intermediate language. The initial part of the book offers an overview of managed code rootkits. It explores environment models of managed code and the relationship of managed code to rootkits by studying how they use application VMs. It also discusses attackers of managed code rootkits and various attack scenarios. The second part of the book covers the development of managed code rootkits, starting with the tools used in producing managed code rootkits through their deployment. The next part focuses on countermeasures that can possibly be used against managed code rootkits, including technical solutions, prevention, detection, and response tactics. The book concludes by presenting techniques that are somehow similar to managed code rootkits, which can be used in solving problems. Named a 2011 Best Hacking and Pen Testing Book by InfoSec Reviews Introduces the reader briefly to managed code environments and rootkits in general Completely details a new type of rootkit hiding in the application level and demonstrates how a hacker can change language runtime implementation Focuses on managed code including Java, .NET, Android Dalvik and reviews malware development scenarios

A practical, accessible introduction to advanced geometry Exceptionally well-written and filled with historical and bibliographic notes, Methods of Geometry presents a practical and proof-oriented approach. The author develops a wide range of subject areas at an intermediate level and explains how theories that underlie many fields of advanced mathematics ultimately lead to applications in science and engineering. Foundations, basic Euclidean geometry, and transformations are discussed in detail and applied to study advanced plane geometry, polyhedra, isometries, similarities, and symmetry. An excellent introduction

to advanced concepts as well as a reference to techniques for use in independent study and research, Methods of Geometry also features: Ample exercises designed to promote effective problem-solving strategies Insight into novel uses of Euclidean geometry More than 300 figures accompanying definitions and proofs A comprehensive and annotated bibliography Appendices reviewing vector and matrix algebra, least upper bound principle, and equivalence relations An Instructor's Manual presenting detailed solutions to all the problems in the book is available upon request from the Wiley editorial department.

Use this comprehensive guide for the SQL Server DBA, covering all that practicing database administrators need to know to get their daily work done. Updated for SQL Server 2019, this edition includes coverage of new features such as Memory-optimized TempDB Metadata, and Always Encrypted with Secure Enclaves. Other new content includes coverage of Query Store, resumable index operations, installation on Linux, and containerized SQL. Pro SQL Server 2019 Administration takes DBAs on a journey that begins with planning their SQL Server deployment and runs through installing and configuring the instance, administering and optimizing database objects, and ensuring that data is secure and highly available. Finally, readers will learn how to perform advanced maintenance and tuning techniques. This book teaches you to make the most of new SQL Server 2019 functionality, including Data Discovery and Classification. The book promotes best-practice installation, shows how to configure for scalability and high workloads, and demonstrates the gamut of database-level maintenance tasks such as index maintenance, database consistency checks, and table optimizations. What You Will Learn Install and configure SQL Server on Windows through the GUI and with PowerShell Install and configure SQL Server on Linux and in Containers Optimize tables through in-memory OLTP, table partitioning, and the creation of indexes Secure and encrypt data to protect against embarrassing data breaches Ensure 24x7x365 access through high-availability and disaster recovery features Back up your data to ensure against loss, and recover data when needed Perform routine maintenance tasks such as database consistency checks Troubleshoot and solve performance problems in SQL queries and in the database engine Who This Book Is For SQL Server DBAs who manage on-premise installations of SQL Server. This book is also useful for DBAs who wish to learn advanced features such as Query Store, Extended Events, Distributed Replay, and Policy-Based Management, or those who need to install SQL Server in a variety of environments.

This book constitutes the joint refereed proceedings of the 20th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networks and Systems, NEW2AN 2020, and the 13th Conference on Internet of Things and Smart Spaces, ruSMART 2020. The conference was held virtually due to the COVID-19 pandemic. The 79 revised full papers presented were carefully reviewed and selected from 225 submissions. The papers of NEW2AN address various aspects of next-generation data networks, with special attention to advanced wireless networking and applications. In particular, they deal with novel and innovative approaches to performance and efficiency analysis of 5G and beyond systems, employed game-theoretical formulations, advanced queuing theory, and stochastic geometry, while also covering the Internet of Things, cyber security, optics, signal processing, as well as business aspects. ruSMART 2020, provides a forum for academic and industrial researchers to discuss new ideas and trends in the emerging areas.

This book constitutes thoroughly revised and selected papers from the Third International Conference on Model-Driven Engineering and Software Development, MODELSWARD 2015, held in Angers, France, in February 2015. The 25 thoroughly revised and extended papers presented in this volume were carefully reviewed and selected from 94 submissions. They are organized in topical sections named: invited papers; modeling languages, tools and architectures; methodologies, processes and platforms; applications and software development.

The AFRICACRYPT 2008 conference was held during June 11–14, 2008 in Casablanca, Morocco. Upon the initiative of the organizers from the Ecole nationale supérieure in Casablanca, this event was the first international research conference in Africa dedicated to cryptography. The conference was honored by the presence of the invited speakers Bruce Schneier, Jacques Stern, and Alexander W. Dent who gave talks entitled “The Psychology of Security” “Modern Cryptography: A Historical Perspective” and “A Brief History of Provably-Secure Public-Key Encryption”, respectively. These proceedings include papers by Bruce Schneier and by Alexander Dent. The conference received 82 submissions on November 24, 2007. They went through a careful doubly anonymous review process. This was run by the iChair software written by Thomas Baignères and Matthieu Finiasz. Every paper received at least three review reports. After this period, 25 papers were accepted on February 12, 2008. Authors then had the opportunity to update their papers until March 13, 2008. The present proceedings include all the revised papers. At the end of the review process, the paper entitled “An Authentication Protocol with Encrypted Biometric Data” written by Julien Bringer and Hervé Chabanne was elected to receive the Africacrypt 2008 Best Paper Award. I had the privilege to chair the Program Committee. I would like to thank all committee members for their tough work on the submissions, as well as all external reviewers for their support. I also thank my assistant Thomas Baignères for maintaining the server and helping me to run the software. I thank the invited speakers, the authors of the best paper, the authors of all submissions. They all contributed to the success of the conference.

Benefit from Microsoft's robust suite of security and cryptography primitives to create a complete, hybrid encryption scheme that will protect your data against breaches. This highly practical book teaches you how to use the .NET encryption APIs and Azure Key Vault, and how they can work together to produce a robust security solution. Applied Cryptography in .NET and Azure Key Vault begins with an introduction to the dangers of data breaches and the basics of cryptography. It then takes you through important cryptographic techniques and practices, from hashing and symmetric/asymmetric encryption, to key storage mechanisms. By the end of the book, you'll know how to combine

these cryptographic primitives into a hybrid encryption scheme that you can use in your applications. Author Stephen Haunts brings 25 years of software development and security experience to the table to give you the concrete skills, knowledge, and code you need to implement the latest encryption standards in your own projects. What You'll Learn: Get an introduction to the principles of encryption Understand the main cryptographic protocols in use today, including AES, DES, 3DES, RSA, SHAx hashing, HMACs, and digital signatures Combine cryptographic techniques to create a hybrid cryptographic scheme, with the benefits of confidentiality, integrity, authentication, and non-repudiation Use Microsoft's Azure Key Vault to securely store encryption keys and secrets Build real-world code to use in your own projects This book is for software developers with experience in .NET and C#. No prior knowledge of encryption and cryptographic principles is assumed. Stephen Haunts is a software developer with experience across industry verticals, including game development, financial services, insurance, and healthcare. He specializes in security and cryptography and regularly speaks and presents at conferences and user groups about secure coding in .NET.

Become more culturally competent in an increasingly diverse world Recent years have seen dramatic changes to several institutions worldwide. Our increasingly interconnected, digitized, and globalized world presents immense opportunities and unique challenges. Modern businesses and schools interact with individuals and organizations from a diverse range of cultural and national backgrounds—increasing the likelihood for miscommunication, errors in strategy, and unintended consequences in the process. This has also spilled into our daily lives and the way we consume information today. Understanding how to navigate these and other pitfalls requires adaptability, nuanced cross-cultural communication, and effective conflict resolution. Use Your Difference to Make a Difference provides readers with a skills-based, actionable plan that transforms differences into agents of inclusiveness, connection, and mutual understanding. This innovative and timely guide illustrates how to leverage differences to move beyond unconscious biases, manage a culturally-diverse workplace, create an environment for more tolerant schooling environments, more trusted media, communicate across borders, find and retain diverse talent, and bridge the gap between working locally and expanding globally. Expert guidance on a comprehensive range of topics—teamwork, leadership styles, information sharing, delegation, supervision, giving and receiving feedback, coaching and motivation, recruiting, managing suppliers and customers, and more—helps you manage the essential aspects of international relationships and cultural awareness. This valuable resource contains the indispensable knowledge required to: Develop self-awareness needed to be a cross-cultural communicator Develop content, messaging techniques, marketing plans, and business strategies that translate across cultural borders Help your employees to better understand and collaborate with clients and colleagues from different backgrounds Help teachers build safe environments for students to be themselves Strengthen cross-cultural competencies in yourself, your team, and your entire organization Understand the cultural, economic, and political factors surrounding our world Use Your Difference to Make a Difference is a must-have resource for any educator, parent, leader, manager, or team member of an organization that interacts with co-workers and customers from diverse cultural backgrounds.

This book provides an inquiry-based introduction to advanced Euclidean geometry. It utilizes dynamic geometry software, specifically GeoGebra, to explore the statements and proofs of many of the most interesting theorems in the subject. Topics covered include triangle centers, inscribed, circumscribed, and escribed circles, medial and orthic triangles, the nine-point circle, duality, and the theorems of Ceva and Menelaus, as well as numerous applications of those theorems. The final chapter explores constructions in the Poincare disk model for hyperbolic geometry. The book can be used either as a computer laboratory manual to supplement an undergraduate course in geometry or as a stand-alone introduction to advanced topics in Euclidean geometry. The text consists almost entirely of exercises (with hints) that guide students as they discover the geometric relationships for themselves. First the ideas are explored at the computer and then those ideas are assembled into a proof of the result under investigation. The goals are for the reader to experience the joy of discovering geometric relationships, to develop a deeper understanding of geometry, and to encourage an appreciation for the beauty of Euclidean geometry.

This joint venture between ICOMOS, the advisory body to UNESCO on cultural sites, and the International Astronomical Union is the second volume in an ongoing exploration of themes and issues relating to astronomical heritage in particular and to science and technology heritage in general. It examines a number of key questions relating to astronomical heritage sites and their potential recognition as World Heritage, attempting to identify what might constitute "outstanding universal value" in relation to astronomy. "Heritage Sites of Astronomy and Archaeoastronomy--Volume 2" represents the culmination of several years' work to address some of the most challenging issues raised in the first ICOMOS-IAU Thematic Study, published in 2010. These include the recognition and preservation of the value of dark skies at both cultural and natural sites and landscapes; balancing archaeoastronomical considerations in the context of broader archaeological and cultural values; the potential for serial nominations; and management issues such as preserving the integrity of astronomical sightlines through the landscape. Its case studies are developed in greater depth than those in volume 1, and generally structured as segments of draft nomination dossiers. They include seven-stone antas (prehistoric dolmens) in Portugal and Spain, the thirteen towers of Chankillo in Peru, the astronomical timing of irrigation in Oman, Pic du Midi de Bigorre Observatory in France, Baikonur Cosmodrome in Kazakhstan, and Aoraki-Mackenzie International Dark Sky Reserve in New Zealand. A case study on Stonehenge, already a World Heritage Site, focuses on preserving the integrity of the solstitial sightlines. As for the first ICOMOS-IAU Thematic Study, an international team of authors including historians, astronomers and heritage professionals is led by Professor Clive Ruggles for the IAU and Professor Michel Cotte for ICOMOS. This book is dedicated to advances in the field of user authentication. The book covers detailed description of the authentication process as well as types of authentication

modalities along with their several features (authentication factors). It discusses the use of these modalities in a time-varying operating environment, including factors such as devices, media and surrounding conditions, like light, noise, etc. The book is divided into several parts that cover descriptions of several biometric and non-biometric authentication modalities, single factor and multi-factor authentication systems (mainly, adaptive), negative authentication system, etc. Adaptive strategy ensures the incorporation of the existing environmental conditions on the selection of authentication factors and provides significant diversity in the selection process. The contents of this book will prove useful to practitioners, researchers and students. The book is suited to be used a text in advanced/graduate courses on User Authentication Modalities. It can also be used as a textbook for professional development and certification coursework for practicing engineers and computer scientists.

A practical, indispensable security guide that will navigate you through the complex realm of securely building and deploying systems in our IoT-connected world About This Book Learn to design and implement cyber security strategies for your organization Learn to protect cyber-physical systems and utilize forensic data analysis to beat vulnerabilities in your IoT ecosystem Learn best practices to secure your data from device to the cloud Gain insight into privacy-enhancing techniques and technologies Who This Book Is For This book targets IT Security Professionals and Security Engineers (including pentesters, security architects and ethical hackers) who would like to ensure security of their organization's data when connected through the IoT. Business analysts and managers will also find it useful. What You Will Learn Learn how to break down cross-industry barriers by adopting the best practices for IoT deployments Build a rock-solid security program for IoT that is cost-effective and easy to maintain Demystify complex topics such as cryptography, privacy, and penetration testing to improve your security posture See how the selection of individual components can affect the security posture of the entire system Use Systems Security Engineering and Privacy-by-design principles to design a secure IoT ecosystem Get to know how to leverage the burdgening cloud-based systems that will support the IoT into the future. In Detail With the advent of Intenret of Things (IoT), businesses will be faced with defending against new types of threats. The business ecosystem now includes cloud computing infrastructure, mobile and fixed endpoints that open up new attack surfaces, a desire to share information with many stakeholders and a need to take action quickly based on large quantities of collected data. . It therefore becomes critical to ensure that cyber security threats are contained to a minimum when implementing new IoT services and solutions. . The interconnectivity of people, devices, and companies raises stakes to a new level as computing and action become even more mobile, everything becomes connected to the cloud, and infrastructure is strained to securely manage the billions of devices that will connect us all to the IoT. This book shows you how to implement cyber-security solutions, IoT design best practices and risk mitigation methodologies to address device and infrastructure threats to IoT solutions. This book will take readers on a journey that begins with understanding the IoT and how it can be applied in various industries, goes on to describe the security challenges associated with the IoT, and then provides a set of guidelines to architect and deploy a secure IoT in your Enterprise. The book will showcase how the IoT is implemented in early-adopting industries and describe how lessons can be learned and shared across diverse industries to support a secure IoT. Style and approach This book aims to educate readers on key areas in IoT security. It walks readers through engaging with security challenges and then provides answers on how to successfully manage IoT security and build a safe infrastructure for smart devices. After reading this book, you will understand the true potential of tools and solutions in order to build real-time security intelligence on IoT networks.

Enterprise Level Security 2: Advanced Topics in an Uncertain World follows on from the authors' first book on Enterprise Level Security (ELS), which covered the basic concepts of ELS and the discoveries made during the first eight years of its development. This book follows on from this to give a discussion of advanced topics and solutions, derived from 16 years of research, pilots, and operational trials in putting an enterprise system together. The chapters cover specific advanced topics derived from painful mistakes and numerous revisions of processes. This book covers many of the topics omitted from the first book including multi-factor authentication, cloud key management, enterprise change management, entity veracity, homomorphic computing, device management, mobile ad hoc, big data, mediation, and several other topics. The ELS model of enterprise security is endorsed by the Secretary of the Air Force for Air Force computing systems and is a candidate for DoD systems under the Joint Information Environment Program. The book is intended for enterprise IT architecture developers, application developers, and IT security professionals. This is a unique approach to end-to-end security and fills a niche in the market.

In this substantive yet accessible book, pioneering software designer Alexander Stepanov and his colleague Daniel Rose illuminate the principles of generic programming and the mathematical concept of abstraction on which it is based, helping you write code that is both simpler and more powerful. If you're a reasonably proficient programmer who can think logically, you have all the background you'll need. Stepanov and Rose introduce the relevant abstract algebra and number theory with exceptional clarity. They carefully explain the problems mathematicians first needed to solve, and then show how these mathematical solutions translate to generic programming and the creation of more effective and elegant code. To demonstrate the crucial role these mathematical principles play in many modern applications, the authors show how to use these results and generalized algorithms to implement a real-world public-key cryptosystem. As you read this book, you'll master the thought processes necessary for effective programming and learn how to generalize narrowly conceived algorithms to widen their usefulness without losing efficiency. You'll also gain deep insight into the value of mathematics to programming—insight that will prove invaluable no matter what programming languages and paradigms you use. You will learn about How to generalize a four thousand-year-old algorithm, demonstrating indispensable lessons about clarity and efficiency Ancient paradoxes, beautiful theorems, and the productive tension between continuous and discrete

A simple algorithm for finding greatest common divisor (GCD) and modern abstractions that build on it Powerful mathematical approaches to abstraction How abstract algebra provides the idea at the heart of generic programming Axioms, proofs, theories, and models: using mathematical techniques to organize knowledge about your algorithms and data structures Surprising subtleties of simple programming tasks and what you can learn from them How practical implementations can exploit theoretical knowledge This book captures the state of the art research in the area of malicious code detection, prevention and mitigation. It contains cutting-edge behavior-based techniques to analyze and detect obfuscated malware. The book analyzes current trends in malware activity online, including botnets and malicious code for profit, and it proposes effective models for detection and prevention of attacks using. Furthermore, the book introduces novel techniques for creating services that protect their own integrity and safety, plus the data they manage.

In an increasingly interconnected world, data breaches grab headlines. The security of sensitive information is vital, and new requirements and regulatory bodies such as the Payment Card Industry Data Security Standard (PCI-DSS), Health Insurance Portability and Accountability Act (HIPAA), and Sarbanes-Oxley (SOX) create challenges for enterprises that use encryption to protect their information. As encryption becomes more widely adopted, organizations also must contend with an ever-growing set of encryption keys. Effective management of these keys is essential to ensure both the availability and security of the encrypted information. Centralized management of keys and certificates is necessary to perform the complex tasks that are related to key and certificate generation, renewal, and backup and recovery. The IBM® Enterprise Key Management Foundation (EKMF) is a flexible and highly secure key management system for the enterprise. It provides centralized key management on IBM zEnterprise® and distributed platforms for streamlined, efficient, and secure key and certificate management operations. This IBM Redbooks® publication introduces key concepts around a centralized key management infrastructure and depicts the proper planning, implementation, and management of such a system using the IBM Enterprise Key Management Foundation solution. Nigel Smart's Cryptography provides the rigorous detail required for advanced cryptographic studies, yet approaches the subject matter in an accessible style in order to gently guide new students through difficult mathematical topics.

Learn how to write, tune, and port SQL queries and other statements for a Big Data environment, using Impala—the massively parallel processing SQL query engine for Apache Hadoop. The best practices in this practical guide help you design database schemas that not only interoperate with other Hadoop components, and are convenient for administrators to manage and monitor, but also accommodate future expansion in data size and evolution of software capabilities. Written by John Russell, documentation lead for the Cloudera Impala project, this book gets you working with the most recent Impala releases quickly. Ideal for database developers and business analysts, the latest revision covers analytics functions, complex types, incremental statistics, subqueries, and submission to the Apache incubator. Getting Started with Impala includes advice from Cloudera's development team, as well as insights from its consulting engagements with customers. Learn how Impala integrates with a wide range of Hadoop components Attain high performance and scalability for huge data sets on production clusters Explore common developer tasks, such as porting code to Impala and optimizing performance Use tutorials for working with billion-row tables, date- and time-based values, and other techniques Learn how to transition from rigid schemas to a flexible model that evolves as needs change Take a deep dive into joins and the roles of statistics

A new theory of culture presented with a new method achieved by comparing closely the art and science in 20th century Austria and Hungary. Major achievements that have influenced the world like psychoanalysis, abstract art, quantum physics, Gestalt psychology, formal languages, vision theories, and the game theory etc. originated from these countries, and influence the world still today as a result of exile nurtured in the US. A source book with numerous photographs, images and diagrams, it opens up a nearly infinite horizon of knowledge that helps one to understand what is going on in today's worlds of art and science.

This book constitutes the proceedings of the Workshops held in conjunction with SAFECOMP 2019, 38th International Conference on Computer Safety, Reliability and Security, in September 2019 in Turku, Finland. The 32 regular papers included in this volume were carefully reviewed and selected from 43 submissions; the book also contains two invited papers. The workshops included in this volume are: ASSURE 2019: 7th International Workshop on Assurance Cases for Software-Intensive Systems DECSoS 2019: 14th ERCIM/EWICS/ARTEMIS Workshop on Dependable Smart Embedded and Cyber-Physical Systems and Systems-of-Systems SASSUR 2019: 8th International Workshop on Next Generation of System Assurance Approaches for Safety-Critical Systems STRIVE 2019: Second International Workshop on Safety, security, and pRivacy In automotiVe systEms WAISE 2019: Second International Workshop on Artificial Intelligence Safety Engineering

This book presents the most interesting talks given at ISSE 2011 – the forum for the inter-disciplinary discussion of how to adequately secure electronic business processes. The topics include: - Cloud Computing & Enterprise Security Services - Awareness, Education, Privacy & Trustworthiness - Smart Grids, Mobile & Wireless Security - Security Management, Identity & Access Management - eID & eGovernment - Device & Network Security Adequate information security is one of the basic requirements of all electronic business processes. It is crucial for effective solutions that the possibilities offered by security technology can be integrated with the commercial requirements of the applications. The reader may expect state-of-the-art: best papers of the Conference ISSE 2011.

Cisco IOS XR Fundamentals is a systematic, authoritative guide to configuring routers with Cisco IOS® XR, the next-generation flagship Cisco® Internet operating system. In this book, a team of Cisco experts brings together quick, authoritative, and example-rich reference information for all the commands most frequently used to configure and

troubleshoot Cisco IOS XR-based routers in both service provider and enterprise environments. The authors walk you through the details of the Cisco IOS XR architecture and explain commands in the new Cisco IOS XR CLI wherever required. They present concise explanations of service provider requirements and internetwork theory, backed by proven sample configurations for IOS XR services, MPLS, multicast, system management, system security, routing, and interfaces. Cisco IOS XR Fundamentals is an indispensable resource for designing, implementing, troubleshooting, administering, or selling networks containing Cisco IOS XR–supported routers. This is the only Cisco IOS XR book that:

- Clearly explains how Cisco IOS XR meets the emerging requirements of both current and future networks
- Gives network professionals extensive information for simplifying migration and taking full advantage of Cisco IOS XR’s new power
- Presents detailed, tested configuration examples that network professionals can apply in their own networks
- Walks through using new Cisco IOS XR features and the In-Service Software Upgrade (ISSU) process to minimize downtime and cost
- Use Cisco IOS XR to deliver superior scalability, availability, security, and service flexibility
- Understand the Cisco IOS XR distributed, modular architecture
- Design, implement, and troubleshoot networks containing Cisco IOS XR–supported routers
- Configure Cisco IOS XR routing, including RIP, IS-IS, OSPF, and EIGRP
- Learn BGP implementation details specific to Cisco IOS XR and using RPL to influence policies
- Manage IP addresses and Cisco IOS XR services
- Secure Cisco IOS XR using standard and extended ACLs, prefix lists, and uRPF
- Master all facets of MPLS configuration, including LDP, L3VPN, and TE
- Configure PIM, IGMP, and static RP multicast
- Optimize networks using advanced Cisco IOS XR features, including secure domain routers
- Learn building blocks of Multishelf, and understand configurations and migration techniques

This book is part of the Cisco Press® Fundamentals Series. Books in this series introduce networking professionals to new networking technologies, covering network topologies, sample deployment concepts, protocols, and management techniques.

Cybersecurity and Privacy issues are becoming an important barrier for a trusted and dependable global digital society development. In this context, new holistic approaches, methodologies, techniques and tools are needed to cope with those issues, and mitigate cyberattacks

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