

Distributed Systems Principles And Paradigms 2nd Edition By Andrew S Tanenbaum Maarten Van Steen 2007 Paperback

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Auditing Cloud Computing - Ben Halpert 2011-07-05

The auditor's guide to ensuring correct security and privacy practices in a cloud computing environment Many organizations are reporting or projecting a significant cost savings through the use of cloud computing—utilizing shared computing resources to provide ubiquitous access for organizations and end users. Just as many organizations, however, are expressing concern with security and privacy issues for their organization's data in the "cloud." Auditing Cloud Computing provides necessary guidance to build a proper audit to ensure operational integrity and customer data protection, among other aspects, are addressed for cloud based resources. Provides necessary guidance to ensure auditors address security and privacy aspects that through a proper audit can provide a specified level of assurance for an organization's resources Reveals effective methods for evaluating the security and privacy practices of cloud services A cloud computing reference for auditors and IT security professionals, as well as those preparing for certification credentials, such as Certified Information Systems Auditor (CISA) Timely and practical, Auditing Cloud Computing expertly provides information to assist in preparing for an audit addressing cloud computing security and privacy for both businesses and cloud based service providers.

Computer Networks - Tanenbaum 2011

Tanenbaum takes a structured approach to explaining how networks work from the inside out. He starts with an explanation of the physical layer of networking, computer hardware and transmission systems; then works his way up to network applications. Tanenbaum's in-depth application coverage includes email; the domain name system; the World Wide Web (both client- and server-side); and multimedia (including voice over IP, Internet radio video on demand, video conferencing, and streaming media. Each chapter follows a consistent approach: Tanenbaum presents key principles, then illustrates them utilizing real-world example networks that run through the entire book—the Internet, and wireless networks, including Wireless LANs, broadband wireless and Bluetooth. The Fifth Edition includes a chapter devoted exclusively to network security. The textbook is supplemented by a Solutions Manual, as well as a Website containing PowerPoint slides, art in various forms, and other tools for instruction, including a protocol simulator whereby students can develop and test their own network protocols.

Modern Operating Systems - Andrew S. Tanenbaum 2001

The widely anticipated revision of this worldwide best seller incorporates the latest developments in operating systems technologies. Hundreds of pages of new material on a wealth of subjects have been added. This authoritative, example-based reference offers practical, hands-on information in constructing and understanding modern operating systems. Continued in this second edition are the "big picture" concepts, presented in the clear and entertaining style that only Andrew S. Tanenbaum can provide. Tanenbaum's long experience as the designer or co-designer of three operating systems brings a knowledge of the subject and wealth of practical detail that few other books can match. FEATURES\ NEW--New chapters on computer security, multimedia operating systems, and multiple processor systems. NEW--Extensive coverage of Linux, UNIX(R), and Windows 2000(TM) as examples. NEW--Now includes coverage of graphical user interfaces, multiprocessor operating systems, trusted systems, viruses, network terminals, CD-ROM file systems, power management on laptops, RAID, soft timers, stable storage, fair-share scheduling, three-level scheduling, and new paging algorithms. NEW--Most chapters have a new section on current research on the chapter's topic. NEW--Focus on "single-processor" computer systems; a new book for a follow-up course on distributed systems is also available from Prentice Hall. NEW--Over 200 references to books and papers published

since the first edition. NEW--The Web site for this book contains PowerPoint slides, simulators, figures in various formats, and other teaching aids.

The British National Bibliography - Arthur James Wells 2006

Distributed Systems - George Coulouris 2011-11-21

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Broad and up-to-date coverage of the principles and practice in the fast moving area of Distributed Systems. Distributed Systems provides students of computer science and engineering with the skills they will need to design and maintain software for distributed applications. It will also be invaluable to software engineers and systems designers wishing to understand new and future developments in the field. From mobile phones to the Internet, our lives depend increasingly on distributed systems linking computers and other devices together in a seamless and transparent way. The fifth edition of this best-selling text continues to provide a comprehensive source of material on the principles and practice of distributed computer systems and the exciting new developments based on them, using a wealth of modern case studies to illustrate their design and development. The depth of coverage will enable readers to evaluate existing distributed systems and design new ones.

Distributed Systems - Maarten van Steen 2017-02

For this third edition of -Distributed Systems, - the material has been thoroughly revised and extended, integrating principles and paradigms into nine chapters: 1. Introduction 2. Architectures 3. Processes 4. Communication 5. Naming 6. Coordination 7. Replication 8. Fault tolerance 9. Security A separation has been made between basic material and more specific subjects. The latter have been organized into boxed sections, which may be skipped on first reading. To assist in understanding the more algorithmic parts, example programs in Python have been included. The examples in the book leave out many details for readability, but the complete code is available through the book's Website, hosted at www.distributed-systems.net. A personalized digital copy of the book is available for free, as well as a printed version through Amazon.com.

Database Internals - Alex Petrov 2019-09-13

When it comes to choosing, using, and maintaining a database, understanding its internals is essential. But with so many distributed databases and tools available today, it's often difficult to understand what each one offers and how they differ. With this practical guide, Alex Petrov guides developers through the concepts behind modern database and storage engine internals. Throughout the book, you'll explore relevant material gleaned from numerous books, papers, blog posts, and the source code of several open source databases. These resources are listed at the end of parts one and two. You'll discover that the most significant distinctions among many modern databases reside in subsystems that determine how storage is organized and how data is distributed. This book examines: Storage engines: Explore storage classification and taxonomy, and dive into B-Tree-based and immutable Log Structured storage engines, with differences and use-cases for each Storage building blocks: Learn how database files are organized to build efficient storage, using auxiliary data structures such as Page Cache, Buffer Pool and Write-Ahead Log Distributed systems: Learn step-by-step how nodes and processes connect and build complex communication patterns Database clusters: Which consistency models are commonly used by modern databases and how distributed storage systems achieve consistency

Distributed Systems - George Coulouris 1994

The new edition of this bestselling title on Distributed Systems has been

thoroughly revised throughout to reflect the state of the art in this rapidly developing field. It emphasizes the principles used in the design and construction of distributed computer systems based on networks of workstations and server computers.

Reliable Distributed Systems - Kenneth Birman 2006-07-02

Explains fault tolerance in clear terms, with concrete examples drawn from real-world settings Highly practical focus aimed at building "mission-critical" networked applications that remain secure
Indian National Bibliography - 2008-07

Principles of Distributed Database Systems - M. Tamer Özsu
2011-02-24

This third edition of a classic textbook can be used to teach at the senior undergraduate and graduate levels. The material concentrates on fundamental theories as well as techniques and algorithms. The advent of the Internet and the World Wide Web, and, more recently, the emergence of cloud computing and streaming data applications, has forced a renewal of interest in distributed and parallel data management, while, at the same time, requiring a rethinking of some of the traditional techniques. This book covers the breadth and depth of this re-emerging field. The coverage consists of two parts. The first part discusses the fundamental principles of distributed data management and includes distribution design, data integration, distributed query processing and optimization, distributed transaction management, and replication. The second part focuses on more advanced topics and includes discussion of parallel database systems, distributed object management, peer-to-peer data management, web data management, data stream systems, and cloud computing. New in this Edition: • New chapters, covering database replication, database integration, multidatabase query processing, peer-to-peer data management, and web data management. • Coverage of emerging topics such as data streams and cloud computing • Extensive revisions and updates based on years of class testing and feedback Ancillary teaching materials are available.

Java Network Programming - Elliotte Rusty Harold 2000

A guide to developing network programs covers networking fundamentals as well as TCP and UDP sockets, multicasting protocol, content handlers, servlets, I/O, parsing, Java Mail API, and Java Secure Sockets Extension.

Designing Distributed Systems - Brendan Burns 2018-02-20

Without established design patterns to guide them, developers have had to build distributed systems from scratch, and most of these systems are very unique indeed. Today, the increasing use of containers has paved the way for core distributed system patterns and reusable containerized components. This practical guide presents a collection of repeatable, generic patterns to help make the development of reliable distributed systems far more approachable and efficient. Author Brendan Burns—Director of Engineering at Microsoft Azure—demonstrates how you can adapt existing software design patterns for designing and building reliable distributed applications. Systems engineers and application developers will learn how these long-established patterns provide a common language and framework for dramatically increasing the quality of your system. Understand how patterns and reusable components enable the rapid development of reliable distributed systems Use the side-car, adapter, and ambassador patterns to split your application into a group of containers on a single machine Explore loosely coupled multi-node distributed patterns for replication, scaling, and communication between the components Learn distributed system patterns for large-scale batch data processing covering work-queues, event-based processing, and coordinated workflows

American Book Publishing Record - 2002

Advanced CORBA® Programming with C++ - Michi Henning
1999-02-17

Here is the CORBA book that every C++ software engineer has been waiting for. Advanced CORBA® Programming with C++ provides designers and developers with the tools required to understand CORBA technology at the architectural, design, and source code levels. This book offers hands-on explanations for building efficient applications, as well as lucid examples that provide practical advice on avoiding costly mistakes. With this book as a guide, programmers will find the support they need to successfully undertake industrial-strength CORBA development projects. The content is systematically arranged and presented so the book may be used as both a tutorial and a reference. The rich example programs in this definitive text show CORBA developers how to write clearer code that is more maintainable, portable, and efficient. The authors' detailed coverage of the IDL-to-C++ mapping moves beyond the mechanics of the APIs to

discuss topics such as potential pitfalls and efficiency. An in-depth presentation of the new Portable Object Adapter (POA) explains how to take advantage of its numerous features to create scalable and high-performance servers. In addition, detailed discussion of advanced topics, such as garbage collection and multithreading, provides developers with the knowledge they need to write commercial applications. Other highlights In-depth coverage of IDL, including common idioms and design trade-offs Complete and detailed explanations of the Life Cycle, Naming, Trading, and Event Services Discussion of IOP and implementation repositories Insight into the dynamic aspects of CORBA, such as dynamic typing and the new DynAny interfaces Advice on selecting appropriate application architectures and designs Detailed, portable, and vendor-independent source code

Database Systems - Elvis C. Foster 2016-11-07

Learn the concepts, principles, design, implementation, and management issues of databases. You will adopt a methodical and pragmatic approach to solving database systems problems. Database Systems: A Pragmatic Approach provides a comprehensive, yet concise introduction to database systems, with special emphasis on the relational database model. This book discusses the database as an essential component of a software system, as well as a valuable, mission-critical corporate resource. New in this second edition is updated SQL content covering the latest release of the Oracle Database Management System along with a reorganized sequence of the topics which is more useful for learning. Also included are revised and additional illustrations, as well as a new chapter on using relational databases to anchor large, complex management support systems. There is also added reference content in the appendixes. This book is based on lecture notes that have been tested and proven over several years, with outstanding results. It combines a balance of theory with practice, to give you your best chance at success. Each chapter is organized systematically into brief sections, with itemization of the important points to be remembered. Additionally, the book includes a number of author Elvis Foster's original methodologies that add clarity and creativity to the database modeling and design experience. What You'll Learn Understand the relational model and the advantages it brings to software systems Design database schemas with integrity rules that ensure correctness of corporate data Query data using SQL in order to generate reports, charts, graphs, and other business results Understand what it means to be a database administrator, and why the profession is highly paid Build and manage web-accessible databases in support of applications delivered via a browser Become familiar with the common database brands, their similarities and differences Explore special topics such as tree-based data, hashing for fast access, distributed and object databases, and more Who This Book Is For Students who are studying database technology, who aspire to a career as a database administrator or designer, and practicing database administrators and developers desiring to strengthen their knowledge of database theory

Clinical Systems Neuroscience - Kenji Kansaku 2015-01-28

The impaired brain has often been difficult to rehabilitate owing to limited knowledge of the brain system. Recently, advanced imaging techniques such as fMRI and MEG have allowed researchers to investigate spatiotemporal dynamics in the living human brain. Consequently, knowledge in systems neuroscience is now rapidly growing. Advanced techniques have found practical application by providing new prosthetics, such as brain-machine interfaces, expanding the range of activities of persons with disabilities, or the elderly. The book's chapters are authored by researchers from various research fields such as systems neuroscience, rehabilitation, neurology, psychology and engineering. The book explores the latest advancements in neurorehabilitation, plasticity and brain-machine interfaces among others and constitutes a solid foundation for researchers who aim to contribute to the science of brain function disabilities and ultimately to the well-being of patients and the elderly worldwide.

Programming Distributed Systems - H. E. Bal 1990

Granular Computing - Witold Pedrycz 2013-06-05

Granular Computing is concerned with constructing and processing carried out at the level of information granules. Using information granules, we comprehend the world and interact with it, no matter which intelligent endeavor this may involve. The landscape of granular computing is immensely rich and involves set theory (interval mathematics), fuzzy sets, rough sets, random sets linked together in a highly synergetic environment. This volume is a first comprehensive treatment of this emerging paradigm and embraces its fundamentals, underlying methodological framework, and a sound algorithmic

environment. The panoply of applications covered includes system identification, telecommunications, linguistics and music processing. Written by experts in the field, this volume will appeal to all developing intelligent systems, either working at the methodological level or interested in detailed system realization.

Peer-to-Peer Systems and Applications - Ralf Steinmetz 2005-09-29
Starting with Napster and Gnutella, peer-to-peer systems became an integrated part of the Internet fabric attracting millions of users. This book provides an introduction to the field. It draws together prerequisites from various fields, presents techniques and methodologies, and gives an overview on the applications of the peer-to-peer paradigm.

Fast and Scalable Cloud Data Management - Felix Gessert 2020-05-15
The unprecedented scale at which data is both produced and consumed today has generated a large demand for scalable data management solutions facilitating fast access from all over the world. As one consequence, a plethora of non-relational, distributed NoSQL database systems have risen in recent years and today's data management system landscape has thus become somewhat hard to overlook. As another consequence, complex polyglot designs and elaborate schemes for data distribution and delivery have become the norm for building applications that connect users and organizations across the globe - but choosing the right combination of systems for a given use case has become increasingly difficult as well. To help practitioners stay on top of that challenge, this book presents a comprehensive overview and classification of the current system landscape in cloud data management as well as a survey of the state-of-the-art approaches for efficient data distribution and delivery to end-user devices. The topics covered thus range from NoSQL storage systems and polyglot architectures (backend) over distributed transactions and Web caching (network) to data access and rendering performance in the client (end-user). By distinguishing popular data management systems by data model, consistency guarantees, and other dimensions of interest, this book provides an abstract framework for reasoning about the overall design space and the individual positions claimed by each of the systems therein. Building on this classification, this book further presents an application-driven decision guidance tool that breaks the process of choosing a set of viable system candidates for a given application scenario down into a straightforward decision tree.

Web Protocols and Practice - Balachander Krishnamurthy 2001
Web Protocols and Practice: HTTP/1.1, Networking Protocols, Caching, and Traffic Measurement is an all-in-one reference to the core technologies underlying the World Wide Web. The book provides an authoritative and in-depth look at the systems and protocols responsible for the transfer of content across the Web. The HyperText Transfer Protocol (HTTP) is responsible for nearly three-quarters of the traffic on today's Internet. This book's extensive treatment of HTTP/1.1 and its interaction with other network protocols make it an indispensable resource for both practitioners and students. Providing both the evolution and complete details of the basic building blocks of the Web, Web Protocols and Practice begins with an overview of Web software components and follows up with a description of the suite of protocols that form the semantic core of how content is delivered on the Web. The book later examines Web measurement and workload characterization and presents a cutting-edge report on Web caching and multimedia streaming. It concludes with a discussion on research perspectives that highlight topics that may affect the future evolution of the Web. Numerous examples and case studies through
Distributed Systems with Node.js - Thomas Hunter II 2020-11-04
Many companies, from startups to Fortune 500 companies alike, use Node.js to build performant backend services. And engineers love Node.js for its approachable API and familiar syntax. Backed by the world's largest package repository, Node's enterprise foothold is only expected to grow. In this hands-on guide, author Thomas Hunter II proves that Node.js is just as capable as traditional enterprise platforms for building services that are observable, scalable, and resilient. Intermediate to advanced Node.js developers will find themselves integrating application code with a breadth of tooling from each layer of a modern service stack. Learn why running redundant copies of the same Node.js service is necessary Know which protocol to choose, depending on the situation Fine-tune your application containers for use in production Track down errors in a distributed setting to determine which service is at fault Simplify app code and increase performance by offloading work to a reverse proxy Build dashboards to monitor service health and throughput Find out why so many different tools are required when operating in an enterprise environment

Modern Operating Systems - Andrew S. Tanenbaum 2013
For Introductory Courses in Operating Systems in Computer Science,

Computer Engineering, and Electrical Engineering programs. The widely anticipated revision of this worldwide best-seller incorporates the latest developments in operating systems (OS) technologies. The Third Edition includes up-to-date materials on relevant OS such as Linux, Windows, and embedded real-time and multimedia systems. Tanenbaum also provides information on current research based on his experience as an operating systems researcher.

Big Data Computing - Rajendra Akerkar 2013-12-05
Due to market forces and technological evolution, Big Data computing is developing at an increasing rate. A wide variety of novel approaches and tools have emerged to tackle the challenges of Big Data, creating both more opportunities and more challenges for students and professionals in the field of data computation and analysis. Presenting a mix of industry cases and theory, Big Data Computing discusses the technical and practical issues related to Big Data in intelligent information management. Emphasizing the adoption and diffusion of Big Data tools and technologies in industry, the book introduces a broad range of Big Data concepts, tools, and techniques. It covers a wide range of research, and provides comparisons between state-of-the-art approaches.

Comprised of five sections, the book focuses on: What Big Data is and why it is important Semantic technologies Tools and methods Business and economic perspectives Big Data applications across industries
Publish / Subscribe Systems - Sasu Tarkoma 2012-06-19
This book offers an unified treatment of the problems solved by publish/subscribe, how to design and implement the solutions In this book, the author provides an insight into the publish/subscribe technology including the design, implementation, and evaluation of new systems based on the technology. The book also addresses the basic design patterns and solutions, and discusses their application in practical application scenarios. Furthermore, the author examines current standards and industry best practices as well as recent research proposals in the area. Finally, necessary content matching, filtering, and aggregation algorithms and data structures are extensively covered as well as the mechanisms needed for realizing distributed publish/subscribe across the Internet. Key Features: Addresses the basic design patterns and solutions Covers applications and example cases including; combining Publish/Subscribe with cloud, Twitter, Facebook, mobile push (appstore), Service Oriented Architecture (SOA), Internet of Things and multiplayer games Examines current standards and industry best practices as well as recent research proposals in the area Covers content matching, filtering, and aggregation algorithms and data structures as well as the mechanisms needed for realizing distributed publish/subscribe across the Internet Publish/Subscribe Systems will be an invaluable guide for graduate/postgraduate students and specialists in the IT industry, distributed systems and enterprise computing, software engineers and programmers working in social computing and mobile computing, researchers. Undergraduate students will also find this book of interest.

Distributed Systems - Andrew S. Tanenbaum 2016-02-26
This second edition of Distributed Systems, Principles & Paradigms, covers the principles, advanced concepts, and technologies of distributed systems in detail, including: communication, replication, fault tolerance, and security. Intended for use in a senior/graduate level distributed systems course or by professionals, this text systematically shows how distributed systems are designed and implemented in real systems.

Distributed Systems - Andrew S. Tanenbaum 2007
For courses on Distributed Systems, Distributed Operating Systems, and Advanced Operating Systems focusing on distributed systems, found in departments of Computer Science, Computer Engineering and Electrical Engineering. Very few textbooks today explore distributed systems in a manner appropriate for university students. In this unique text, esteemed authors Tanenbaum and van Steen provide full coverage of the field in a systematic way that can be readily used for teaching. No other text examines the underlying principles and their applications to a wide variety of practical distributed systems with this level of depth and clarity."

Creating Maintainable APIs - Ervin Varga 2016-11-14
Build straightforward and maintainable APIs to create services that are usable and maintainable. Although this book focuses on distributed services, it also emphasizes how the core principles apply even to pure OOD and OOP constructs. The overall context of Creating Maintainable APIs is to classify the topics into four main areas: classes and interfaces, HTTP REST APIs, messaging APIs, and message payloads (XML, JSON and JSON API as well as Apache Avro). What You Will Learn Use object-oriented design constructs and their APIs Create and manage HTTP REST APIs Build

and manage maintainable messaging APIs, including the use of Apache Kafka as a principal messaging hub Handle message payloads via JSON Who This Book Is For Any level software engineers and very experienced programmers.

Self-star Properties in Complex Information Systems - Ozalp Babaoglu 2005-05-24

This book is a spin-off of a by-invitation-only workshop on self-* properties in complex systems held in summer 2004 in Bertinoro, Italy. The workshop aimed to identify the conceptual and practical foundations for modeling, analyzing, and achieving self-* properties in distributed and networked systems. Based on the discussions at the workshop, papers were solicited from workshop participants and invited from leading researchers in the field. Besides presenting sound research results, the papers also present visionary statements, thought-provoking ideas, and exploratory results. The 27 carefully reviewed revised full papers, presented together with a motivating introduction and overview, are organized in topical sections on self-organization, self-awareness, self-awareness versus self-organization, supporting self-properties, and peer-to-peer algorithms.

Enabling Things to Talk - Alessandro Bassi 2013-10-28

The Internet of Things (IoT) is an emerging network superstructure that will connect physical resources and actual users. It will support an ecosystem of smart applications and services bringing hyper-connectivity to our society by using augmented and rich interfaces. Whereas in the beginning IoT referred to the advent of barcodes and Radio Frequency Identification (RFID), which helped to automate inventory, tracking and basic identification, today IoT is characterized by a dynamic trend toward connecting smart sensors, objects, devices, data and applications. The next step will be "cognitive IoT," facilitating object and data re-use across application domains and leveraging hyper-connectivity, interoperability solutions and semantically enriched information distribution. The Architectural Reference Model (ARM), presented in this book by the members of the IoT-A project team driving this harmonization effort, makes it possible to connect vertically closed systems, architectures and application areas so as to create open interoperable systems and integrated environments and platforms. It constitutes a foundation from which software companies can capitalize on the benefits of developing consumer-oriented platforms including hardware, software and services. The material is structured in two parts. Part A introduces the general concepts developed for and applied in the ARM. It is aimed at end users who want to use IoT technologies, managers interested in understanding the opportunities generated by these novel technologies, and system architects who are interested in an overview of the underlying basic models. It also includes several case studies to illustrate how the ARM has been used in real-life scenarios. Part B then addresses the topic at a more detailed technical level and is targeted at readers with a more scientific or technical background. It provides in-depth guidance on the ARM, including a detailed description of a process for generating concrete architectures, as well as reference manuals with guidelines on how to use the various models and perspectives presented to create a concrete architecture. Furthermore, best practices and tips on how system engineers can use the ARM to develop specific IoT architectures for dedicated IoT solutions are illustrated and exemplified in reverse mapping exercises of existing standards and platforms.

Controller Design for Distributed Parameter Systems - Kirsten A. Morris 2020-06-01

This book addresses controller and estimator design for systems that vary both spatially and in time: systems like fluid flow, acoustic noise and flexible structures. It includes coverage of the selection and placement of actuators and sensors for such distributed-parameter systems. The models for distributed parameter systems are coupled ordinary/partial differential equations. Approximations to the governing equations, often of very high order, are required and this complicates both controller design and optimization of the hardware locations. Control system and estimator performance depends not only on the controller/estimator design but also on the location of the hardware. In helping the reader choose the best location for actuators and sensors, the analysis provided in this book is crucial because neither intuition nor trial-and-error is foolproof, especially where multiple sensors and actuators are required, and moving hardware can be difficult and costly. The mechatronic approach advocated, in which controller design is integrated with actuator location, can lead to better performance without increased cost. Similarly, better estimation can be obtained with carefully placed sensors. The text shows how proper hardware placement varies depending on whether, disturbances are present, whether the response should be reduced to an

initial condition or whether controllability and/or observability have to be optimized. This book is aimed at non-specialists interested in learning controller design for distributed-parameter systems and the material presented has been used for student teaching. The relevant basic systems theory is presented and followed by a description of controller synthesis using lumped approximations. Numerical algorithms useful for efficient implementation in real engineering systems and practical computational challenges are also described and discussed.

Distributed Systems - Sukumar Ghosh 2014-07-14

Distributed Systems: An Algorithmic Approach, Second Edition provides a balanced and straightforward treatment of the underlying theory and practical applications of distributed computing. As in the previous version, the language is kept as unobscured as possible—clarity is given priority over mathematical formalism. This easily digestible text: Features significant updates that mirror the phenomenal growth of distributed systems Explores new topics related to peer-to-peer and social networks Includes fresh exercises, examples, and case studies Supplying a solid understanding of the key principles of distributed computing and their relationship to real-world applications, Distributed Systems: An Algorithmic Approach, Second Edition makes both an ideal textbook and a handy professional reference.

Big Data - Min Chen 2014-05-05

This Springer Brief provides a comprehensive overview of the background and recent developments of big data. The value chain of big data is divided into four phases: data generation, data acquisition, data storage and data analysis. For each phase, the book introduces the general background, discusses technical challenges and reviews the latest advances. Technologies under discussion include cloud computing, Internet of Things, data centers, Hadoop and more. The authors also explore several representative applications of big data such as enterprise management, online social networks, healthcare and medical applications, collective intelligence and smart grids. This book concludes with a thoughtful discussion of possible research directions and development trends in the field. Big Data: Related Technologies, Challenges and Future Prospects is a concise yet thorough examination of this exciting area. It is designed for researchers and professionals interested in big data or related research. Advanced-level students in computer science and electrical engineering will also find this book useful.

Network Programming with Go - Jan Newmarch 2017-05-15

Dive into key topics in network architecture and Go, such as data serialization, application level protocols, character sets and encodings. This book covers network architecture and gives an overview of the Go language as a primer, covering the latest Go release. Beyond the fundamentals, Network Programming with Go covers key networking and security issues such as HTTP and HTTPS, templates, remote procedure call (RPC), web sockets including HTML5 web sockets, and more. Additionally, author Jan Newmarch guides you in building and connecting to a complete web server based on Go. This book can serve as both as an essential learning guide and reference on Go networking. What You Will Learn Master network programming with Go Carry out data serialization Use application-level protocols Manage character sets and encodings Deal with HTTP(S) Build a complete Go-based web server Work with RPC, web sockets, and more Who This Book Is For Experienced Go programmers and other programmers with some experience with the Go language.

Formal Methods for Eternal Networked Software Systems - Marco Bernardo 2011-06-03

This book presents 15 tutorial lectures by leading researchers given at the 11th edition of the International School on Formal Methods for the Design of Computer, Communication and Software Systems, SFM 2011, held in Bertinoro, Italy, in June 2011. SFM 2011 was devoted to formal methods for eternal networked software systems and covered several topics including formal foundations for the inter-operability of software systems, application-layer and middleware-layer dynamic connector synthesis, interaction behavior monitoring and learning, and quality assurance of connected systems. The school was held in collaboration with the researchers of the EU-funded projects CONNECT and ETERNALS. The papers are organized into six parts: (i) architecture and interoperability, (ii) formal foundations for connectors, (iii) connector synthesis, (iv) learning and monitoring, (v) dependability assurance, and (vi) trustworthy eternal systems via evolving software.

STRUCTURED COMPUTER ORGANIZATION - 1996

Understanding Distributed Systems - Roberto Vitillo 2021

Learning to build distributed systems is hard, especially if they are large scale. It's not that there is a lack of information out there. You can find

academic papers, engineering blogs, and even books on the subject. The problem is that the available information is spread out all over the place, and if you were to put it on a spectrum from theory to practice, you would find a lot of material at the two ends, but not much in the middle. That is why I decided to write a book to teach the fundamentals of distributed systems so that you don't have to spend countless hours scratching your head to understand how everything fits together. This is the guide I wished existed when I first started out, and it's based on my experience building large distributed systems that scale to millions of requests per second and billions of devices. If you develop the back-end of web or mobile applications (or would like to!), this book is for you. When building distributed systems, you need to be familiar with the network stack, data consistency models, scalability and reliability patterns, and much more. Although you can build applications without knowing any of that, you will end up spending hours debugging and re-designing their architecture, learning lessons that you could have acquired in a much faster and less painful way.

Modern Compiler Design - Dick Grune 2012-07-20

"Modern Compiler Design" makes the topic of compiler design more accessible by focusing on principles and techniques of wide application. By carefully distinguishing between the essential (material that has a high chance of being useful) and the incidental (material that will be of benefit only in exceptional cases) much useful information was packed in this comprehensive volume. The student who has finished this book can expect to understand the workings of and add to a language processor for each of the modern paradigms, and be able to read the literature on how to proceed. The first provides a firm basis, the second potential for growth.

DISTRIBUTED OPERATING SYSTEMS - PRADEEP K. SINHA 1998-01-01
The highly praised book in communications networking from IEEE Press, now available in the Eastern Economy Edition. This is a non-mathematical introduction to Distributed Operating Systems explaining the fundamental concepts and design principles of this emerging technology. As a textbook for students and as a self-study text for systems managers and software engineers, this book provides a concise and an informal introduction to the subject.