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IP Networks **CCNP SWITCH Lab Manual** *CCNP Routing and Switching SWITCH 300-115 Official Cert Guide* Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide **IP Switching** *IP Switching and Routing Essentials Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) Foundation Learning Guide* CCNP SWITCH Lab Manual **IP Design for Mobile Networks** **CCNP SWITCH 642-813 Official Certification Guide** **Switched Networks Companion Guide** **TCP/IP Network Administration** Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide **Network Routing** *CCNP Routing and Switching Foundation Learning Library* High-performance Communication Networks *The Illustrated Network* **CCNP Switching (300-115) Cert Prep: 1 Layer 2 Technologies** **IP in Wireless Networks** *Cisco Routers for IP Networking Black Book* Broadband Packet Switching Technologies Router Security Strategies *CCNP Switching (300-115) Cert Prep: 1 Layer 2 Technologies* **Ethernet Switches** **Developing IP Multicast Networks**

The only complete source of information on IP switching and routing technologies A master at distilling complex need-to-know networking technologies into a clear, to-the-point narrative, proven author Stephen Thomas now tackles IP switching and routing--the backbone of all Internet communications. He presents all the relevant technologies in the context of real-world applications, offering concise explanations and over 150 illustrations that make complex topics easy to understand. An invaluable resource for network managers and service provider professionals, this book delivers complete coverage of routing technologies--distance vector, link state, and path vector--as well as the full roster of Internet standard routing protocols: Routing Information Protocol (RIP), Border Gateway Protocol (BGP), and Open Shortest Path First (OSPF). The text then documents advances that enable Multi Protocol Label Switching (MPLS), including the MPLS architecture, its interaction with

standards routing protocols, Constraint-Based Label Distribution Protocol (CR-LDP), and traffic engineering extensions to the Resource Reservation Protocol (RSVP-TE). Pass the Cisco CCNP exam with help from a Study Blast!! So what is a Study Blast? A "Study Blast" is a book of facts and items listed out for you to read, learn and memorize before taking a test. What can you do with the book? Try making flashcards from the items that give you difficulty. Read through before taking a practice test. Review after your practice tests. Read this book the night before the exam.. Make your own quizzes and tests.. Use this book for group studies.. All that and more... We review all the latest data and present it here. And by all means we are not a replacement for the "Official Study Guide" but we are an add on for every test taker to benefit from in helping them pass an exam. Please check out all of our Study Blast books! This is the eBook version of the print title. Note that the eBook does not provide access to the practice test software that accompanies the print book. Trust the best selling Official Cert Guide series from Cisco Press to help you learn, prepare, and practice for exam success. They are built with the objective of providing assessment, review, and practice to help ensure you are fully prepared for your certification exam. Master the CCNP® SWITCH 642-813 exam with this official study guide Assess your knowledge with chapter-opening quizzes Review key concepts with Exam Preparation Tasks CCNP SWITCH 642-813 Official Certification Guide is a best-of-breed Cisco® exam study guide that focuses specifically on the objectives for the CCNP® SWITCH exam. Network architect and best-selling author Dave Hucaby shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. CCNP SWITCH 642-813 Official Certification Guide presents you with an organized test preparation routine through the use of proven series elements and techniques. "Do I

Know This Already?" quizzes open each chapter and allow you to decide how much time you need to spend on each section. The complete exam topic list makes referencing easy. Chapter-ending Exam Preparation Tasks sections help drill you on key concepts and commands you must know thoroughly. Well regarded for its level of detail, assessment features, and challenging review questions and exercises, this official study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time. CCNP SWITCH 642-813 Official Certification Guide is part of a recommended learning path from Cisco that includes simulation and hands-on training from authorized Cisco Learning Partners and self-study products from Cisco Press. To find out more about instructor-led training, e-learning, and hands-on instruction offered by authorized Cisco Learning Partners worldwide, please visit www.cisco.com/go/authorizedtraining. This official study guide helps you master all the topics on the CCNP SWITCH exam, including Network design, implementation, and verification plans Switch operation and port configuration VLANs, trunks, and VLAN Trunking Protocol (VTP) Aggregating switch links Spanning Tree Protocol (STP) Multilayer switching Enterprise campus network design Router and supervisor redundancy IP telephony Wireless LANs Switched network security This volume is part of the Official Certification Guide Series from Cisco Press. Books in this series provide officially developed exam preparation materials that offer assessment, review, and practice to help Cisco Career Certification candidates identify weaknesses, concentrate their study efforts, and enhance their confidence as exam day nears. IP in Wireless Networks is the first network professional's guide to integrating IP in 2G, 2.5G, and 3G wireless networks. It delivers systematic, expert implementation guidance for every leading wireless network, including 802.11, Bluetooth, GSM/GPRS, W-CDMA, cdma2000, and i-mode. In-depth coverage encompasses architecture, technical challenges, deployment and operation strategies, mobility models,

routing, and applications. The book presents future evolution of the Wireless IP Networks with emerging applications and the role of standardization bodies. Implementing Cisco IP Switched Networks (SWITCH) Foundation Learning Guide: Foundation learning for SWITCH 642-813 Richard Froom, CCIE No. 5102 Balaji Sivasubramanian Erum Frahim, CCIE No. 7549 Implementing Cisco IP Switched Networks (SWITCH) Foundation Learning Guide is a Cisco® authorized learning tool for CCNP® and CCDP® preparation. As part of the Cisco Press foundation learning series, this book covers how to plan, configure, and verify the implementation of complex enterprise switching solutions using the Cisco Campus Enterprise Architecture. The Foundation Learning Guide also covers secure integration of VLANs, WLANs, voice, and video into campus networks. Each chapter opens with the list of topics covered to clearly identify the focus of that chapter. At the end of each chapter, a summary and review questions provide you with an opportunity to assess and reinforce your understanding of the material. Throughout the book detailed explanations with commands, configurations, and diagrams serve to illuminate theoretical concepts. Implementing Cisco IP Switched Networks (SWITCH) Foundation Learning Guide is ideal for certification candidates who are seeking a tool to learn all the topics covered in the SWITCH 642-813 exam. - Serves as the official book for the Cisco Networking Academy CCNP SWITCH course - Provides a thorough presentation of the fundamentals of multilayer switched network design - Explains the implementation of the design features such as VLAN, Spanning Tree, and inter-VLAN routing in the multilayer switched environment - Explains how to implement high-availability technologies and techniques - Covers security features in a switched network - Presents self-assessment review questions, chapter topics, summaries, command syntax explanations, network diagrams, and configuration examples to facilitate effective studying This book is in the Foundation Learning Guide Series. These guides are developed

together with Cisco® as the only authorized, self-paced learning tools that help networking professionals build their understanding of networking concepts and prepare for Cisco certification exams. CCNP Routing and Switching Foundation Learning Library: ROUTE;300-101, SWITCH 300-115, TSHOOT 300-135; contains three books that provide early and comprehensive foundation learning for the three new required exams for CCNP certification: Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide: (CCNP ROUTE 300-101) Implementing Cisco IP Switched Networks (SWITCH) Foundation Learning Guide: (CCNP SWITCH 300-115) Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) Foundation Learning Guide: (CCNP TSHOOT 300-135) This package is a comprehensive self-study tool for learning the material covered in the three new CCNP exams. The books are intermediate-level texts that assume that readers have been exposed to beginner-level networking concepts contained in the CCNA (ICND1 and ICND2) certification curriculum. No previous exposure to the CCNP level subject matter is required, so the books provide a great deal of detail on the topics covered. Within the Authorized Self-Study Guide series, each chapter opens with a list of objectives to help focus the reader's study. Real-world case studies sprinkled throughout help illuminate theoretical concepts. Key terms will be highlighted and defined as they are first used. Each chapter will conclude with a summary to help review key concepts, as well as review questions to reinforce the reader's understanding of what was covered. The only authorized Lab Manual for Cisco Networking Academy's new course CCNP SWITCH: Implementing IP Switched Networks, V.6 (Exam 642-813) A portable, bound copy of all 19 CCNP V 6.x SWITCH Labs: convenient lightweight and friendly Allows students to review or walk through hands-on labs without a huge textbook or live Web connection Contains additional pages between labs for in-class note-taking Separate answer key available at Cisco Academy Connection and the PearsonHigherEd.com

Instructor Resource site This hands-on switching Lab Manual is the perfect companion for all Cisco Networking Academy students who are taking the new course CCNP SWITCH: Implementing IP Switched Networks (V. 6) as part of their CCNP preparation. It offers a portable, bound copy of all 19 CCNP V 6.x SWITCH network switching labs in a convenient, lightweight format that allows students to walk through key procedures and easily take notes without a large textbook or a live Internet connection. Working with these conveniently-formatted labs, students will gain practical experience and skills for planning, configuring, and verifying the implementation of complex enterprise switching solutions using Cisco's Campus Enterprise Architecture; and for securely integrating VLANs, WLANs, voice, and video into campus networks. CCNP Authorized Self-Study Guide Library, contains three books that cover the three new required exams for CCNP certification: ROUTE, SWITCH, and TSHOOT. These three books are the only Cisco authorized, self-paced foundational learning tools designed to help network professionals prepare for the brand new CCNP exams from Cisco. They cover all CCNP exam objectives. Trust the best-selling Official Cert Guide series from Cisco Press to help you learn, prepare, and practice for exam success. They are built with the objective of providing assessment, review, and practice to help ensure you are fully prepared for your certification exam. Master Cisco CCNP SWITCH 300-115 exam topics Assess your knowledge with chapter-opening quizzes Review key concepts with exam preparation tasks This is the eBook edition of the CCNP Routing and Switching SWITCH 300-115 Official Cert Guide. This eBook does not include the companion CD-ROM with practice exam that comes with the print edition. CCNP Routing and Switching SWITCH 300-115 Official Cert Guide from Cisco Press enables you to succeed on the exam the first time and is the only self-study resource approved by Cisco. Expert engineer David Hucaby shares preparation hints and test-taking tips, helping you identify areas of weakness and

improve both your conceptual knowledge and hands-on skills. This complete, official study package includes A test-preparation routine proven to help you pass the exam Do I Know This Already? quizzes, which enable you to decide how much time you need to spend on each section Chapter-ending exercises, which help you drill on key concepts you must know thoroughly The powerful Pearson IT Certification Practice Test software, complete with hundreds of well-reviewed, exam-realistic questions, customization options, and detailed performance reports More than 60 minutes of personal video mentoring from the author on important exam topics A final preparation chapter, which guides you through tools and resources to help you craft your review and test-taking strategies Study plan suggestions and templates to help you organize and optimize your study time Well regarded for its level of detail, study plans, assessment features, challenging review questions and exercises, this official study guide helps you master the concepts and techniques that ensure your exam success.

CCNP Routing and Switching SWITCH 300-115 Official Cert Guide is part of a recommended learning path from Cisco that includes simulation and hands-on training from authorized Cisco Learning Partners and self-study products from Cisco Press. To find out more about instructor-led training, e-learning, and hands-on instruction offered by authorized Cisco Learning Partners worldwide, please visit www.cisco.com. The official study guide helps you master topics on the CCNP R&S SWITCH 300-115 exam, including: Enterprise campus design Switch operation Switch port configuration VLANs, Trunks, and VLAN Trunking Protocol (VTP) Spanning Tree Protocol (STP), RSTP, and MSTP Protecting the STP topology Aggregating switch links Multilayer switching Configuring DHCP Logging switch activity and managing switches with SNMP Monitoring performance and traffic High availability Securing switched networks Building Switched Networks provides a comprehensive, technical survey of the networking technologies that comprise the core of

evolving LAN and WAN infrastructures. This book gives you essential background information, clear descriptions of relevant technologies, and an understanding of how those technologies will be employed throughout networks in the near future. In particular, the text focuses on developments that support our increasing demand for network bandwidth - multilayer switching delivery guarantees, and multicasting - and examines performance issues, resource allocation, network policy, and network services. Written by the Cisco expert and author of Cisco Routers for IP Routing Little Black Book (Coriolis ISBN 1-57610-421-4). Explores complex topics in-depth, in the popular Black Book format, using a complete systematic approach to Cisco IP networking along with comprehensive examples and diagrams. Covers the most important routing concepts by introducing the subject and then going through relevant practical examples. The configurations in this book were implemented in a lab with real Cisco routers. Especially written as a comprehensive guide for intermediate and advanced network professionals, or network specialists studying for the CCIE certification, to help answer all major router configuring and troubleshooting issues. Network routing can be broadly categorized into Internet routing, PSTN routing, and telecommunication transport network routing. This book systematically considers these routing paradigms, as well as their interoperability. The authors discuss how algorithms, protocols, analysis, and operational deployment impact these approaches. A unique feature of the book is consideration of both macro-state and micro-state in routing; that is, how routing is accomplished at the level of networks and how routers or switches are designed to enable efficient routing. In reading this book, one will learn about 1) the evolution of network routing, 2) the role of IP and E.164 addressing in routing, 3) the impact on router and switching architectures and their design, 4) deployment of network routing protocols, 5) the role of traffic engineering in routing, and 6) lessons learned from implementation and operational experience. This book explores the strengths and

weaknesses that should be considered during deployment of future routing schemes as well as actual implementation of these schemes. It allows the reader to understand how different routing strategies work and are employed and the connection between them. This is accomplished in part by the authors' use of numerous real-world examples to bring the material alive. Bridges the gap between theory and practice in network routing, including the fine points of implementation and operational experience

Routing in a multitude of technologies discussed in practical detail, including, IP/MPLS, PSTN, and optical networking

Routing protocols such as OSPF, IS-IS, BGP presented in detail

A detailed coverage of various router and switch architectures

A comprehensive discussion about algorithms on IP-lookup and packet classification

Accessible to a wide audience due to its vendor-neutral approach

Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) Foundation Learning Guide

Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) Foundation Learning Guide is your Cisco authorized learning tool for CCNP TSHOOT 300-135 exam preparation. Part of the Cisco Press Foundation Learning Guide series, it teaches you how to maintain and monitor even the most complex enterprise networks. You'll compare and master today's leading approaches to troubleshooting, including an efficient structured process for maximizing network uptime in the context of your own organization's policies and procedures. Coverage includes gathering information, capturing traffic, using event notifications, working with maintenance and trouble-shooting tools, and more.

Throughout, each chapter opens with a list of topics that clearly identify its focus. Each chapter ends with a summary of key concepts for quick study, as well as review questions to assess and reinforce your understanding. To deepen your hands-on expertise and strengthen your exam readiness, this guide also presents five full chapters of real-world troubleshooting case studies. This guide is ideal for all certification candidates who want to master all the topics covered on the TSHOOT 300-135 exam. --

The official textbook for the Cisco Networking Academy CCNP TSHOOT 300-135 course -- Thoroughly introduces proven troubleshooting principles and common troubleshooting approaches -- Defines structured troubleshooting and reviews its subprocesses --Shows how to integrate troubleshooting into day-to-day network maintenance processes --Covers information gathering on Layer 2 switching and Layer 3 routing with IOS show and debug commands, ping, and telnet -- Introduces specialized tools for capturing traffic, gathering information (SNMP and NetFlow), and receiving network event notifications (EEM) --Uses extensive troubleshooting examples and diagrams to support explanations and strengthen your understanding --Presents self-assessment review questions, chapter objectives, and summaries to facilitate effective studying What kind of switch can actually deliver the reduced latency, improved QoS (quality of service), and greater bandwidth demanded by services such as videoconferencing, multicasting, and virtual reality? Which switches meet the needs of your network? And, perhaps most importantly, which will keep up with technology that's always on the move? This book, covering both the firmware and software of IP switching, and written by one of the field's foremost experts, has all the answers. It provides the best overview of the entire arena, giving you everything from a nuts-and-bolts explanation of switching technology to a detailed, all-inclusive analysis of vendor offerings. Network designers, network managers, Internet service providers, and anyone dealing with the technical aspects of fast data flow, all need IP Switching: Protocols and Architectures. Here's the book you need to prepare for Cisco's Building Cisco Multilayer Switched Networks (BCMSN) exam, 642-811. This Study Guide provides: In-depth coverage of key exam topics Practical information on designing and implementing multilayer switched networks Hundreds of challenging review questions Leading-edge exam preparation software, including a test engine, and electronic flashcards Authoritative coverage of all exam objectives,

including: Utilizing the Enterprise Composite Model for designing networks Using the Switching Database Manager within a Catalyst switch Operating managed VLAN services on a switched network Configuring and verifying 802.1Q and ISL trunks Configuring access ports for static and multi-VLAN membership Increasing bandwidth for interswitch connections with Fast EtherChannel and Gigabit EtherChannel Enabling Spanning Tree Protocol on ports and VLANs Converting CatOS to native IOS on Catalyst switches Implementing IP telephony in a switched network environment Planning, configuring, and implementing QOS Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file. "The Cisco 642-813 exam is one of the three required exams for the Cisco CCNP Certification. Passing this exam in conjunction with the ROUTE and TSHOOT exams will earn you the CCNP (Cisco Certified Network Professional) certification, which is an excellent validation that you are knowledgeable about the most current Cisco software and best practices. This VTC course covers the requirements for the SWITCH exam and should prepare you to pass this exam. To begin learning today, simply click on the movie links."--Resource description page. These foundation learning guides help you understand the topics on the three CCNP Routing and Switching exams. ROUTE: * Internet Protocol (IP) routing protocol principles * Enhanced Interior Gateway Routing Protocol (EIGRP) * Open Shortest Path First (OSPF) * Border Gateway Protocol (BGP) * IP Version 6 (IPv6) SWITCH: * VLANs, trunks, VTP, and STP * Inter-VLAN Routing * Multilayer switching * High availability and redundancy * Switch security fundamentals TSHOOT: * Troubleshooting wireless, unified communications, and video issues * Maintaining and troubleshooting network security implementations * Cisco IOS® software for maintenance and troubleshooting * Troubleshooting switched virtual interfaces, Inter-VLAN Routing, and LAN switch operation * Troubleshooting OSPF, EIGRP, BGP, and route redistribution CCNP Routing and

Switching Foundation Learning Library is a comprehensive foundation learning package for the three CCNP Routing and Switching exams: ROUTE, SWITCH, and TSHOOT. The three books contained in this package, Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide, Implementing Cisco IP Switched Networks (SWITCH) Foundation Learning Guide, and Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) Foundation Learning Guide build your knowledge of CCNP Routing and Switching topics. These authorized CCNP Foundation Learning guides are written by experts, bringing years of teaching and consulting experience together in an ideal self-study format. Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide teaches you how to select and implement the appropriate Cisco IOS services required to build a scalable, routed network. Implementing Cisco IP Switched Networks (SWITCH) Foundation Learning Guide ensures that you have the skills to plan, configure, and verify the implementation of complex enterprise switching solutions. Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) Foundation Learning Guide helps you master planning tasks, performance measurements, configuring and verifying, and correct troubleshooting procedures and documentation tasks. Each of these official learning guides provides a list of topics covered to clearly identify the focus of each chapter, a summary of key concepts for quick study, and review questions that provide you with an opportunity to assess and reinforce your understanding of the material. CCNP Routing and Switching Foundation Learning Library is part of a recommended learning path from Cisco that includes simulation and hands-on training from authorized Cisco Learning Partners and self-study products from Cisco Press. To find out more about instructor-led training, e-learning, and hands-on instruction offered by authorized Cisco Learning Partners worldwide, please visit www.cisco.com/go/authorizedtraining. The definitive guide to designing and deploying Cisco IP multicast networks Clear explanations of the concepts and

underlying mechanisms of IP multicasting, from the fundamentals to advanced design techniques. Concepts and techniques are reinforced through real-world network examples, each clearly illustrated in a step-by-step manner with detailed drawings. Detailed coverage of PIM State Rules that govern Cisco router behavior. In-depth information on IP multicast addressing, distribution trees, and multicast routing protocols. Discussions of the common multimedia applications and how to deploy them. Developing IP Multicast Networks, Volume I, covers an area of networking that is rapidly being deployed in many enterprise and service provider networks to support applications such as audio and videoconferencing, distance learning, and data replication. The concepts used in IP multicasting are unlike any other network protocol, making this book a critical tool for networking professionals who are implementing this technology. This book provides a solid foundation of basic IP multicast concepts, as well as the information needed to actually design and deploy IP multicast networks. Using examples of common network topologies, author Beau Williamson discusses the issues that network engineers face when trying to manage traffic flow. Developing IP Multicast Networks, Volume I, includes an in-depth discussion of the PIM protocol used in Cisco routers and detailed coverage of the rules that control the creation and maintenance of Cisco mroute state entries. The result is a comprehensive guide to the development and deployment of IP multicast networks using Cisco routers and switches. "The Cisco CCNP SWITCH - Implementing Cisco IP Switched Networks v2.0 training course develops the required skills and expertise in the candidates that are needed to create an efficient and expandable enterprise network. The primary focus of this training course is on the Layer 2 and multilayer switch functions including VLANs, trunks, inter-VLAN routing, port aggregation, spanning tree, first hop redundancy, as well as network security and high availability features. This extensive training course on Cisco Switching is part of the series on Cisco CCNP certification exam. The course

helps the students to plan, configure, and verify the implementation of complex enterprise switching solutions for campus environments using the Cisco Enterprise Campus Architecture."--Resource description page. While more and more data is shifted from circuit-switched to packet-switched networks, the users of these networks expect a smooth, continuously unproblematic service (unrelated to the amount of data transported). Therefore, the reliability of a network as well as the satisfaction of its users relies largely on Quality of Service (QoS). Service quality through resource management in IP networks will ensure that sufficient resources are available to fulfil the delay of applications and packet loss requirements. This year several books on QoS from the angle of operators/engineers have been published HOWEVER, none of these titles tackle the management side of the problem. This book shows how to determine quality requirements of services, it discusses and considers the various means of allocating network resources and of supervising the service quality. Furthermore, it explores strategies for allocating network resources and their relation to revenue or operator utility as well as service allocation optimization. The book concludes with a Nokia case study that illustrates the previously mentioned concepts. Essential reading for networking professionals wishing to understand service quality management in IP networks, as well as students needing to understand principles and basic techniques of service quality management. As the cellular world and the Internet converge, mobile networks are transitioning from circuit to packet and the Internet Protocol (IP) is now recognized as the fundamental building block for all next-generation communication networks. The all-IP vision provides the flexibility to deliver cost-effective services and applications that meet the evolving needs of mobile users. RF engineers, mobile network designers, and system architects will be expected to have an understanding of IP fundamentals and how their role in delivering the end-to-end system is crucial for delivering the all-IP vision that makes the Internet accessible anytime, anywhere.

IP Design for Mobile Networks discusses proper IP design theory to effectively plan and implement your next-generation mobile network so that IP integrates all aspects of the network. The book outlines, from both a standards and a design theory perspective, both the current and target state of mobile networks, and the technology enablers that will assist the migration. This IP transition begins with function-specific migrations of specific network domains and ends with an end-to-end IP network for radio, transport, and service delivery. The book introduces many concepts to give you exposure to the key technology trends and decision points affecting today's mobile operators. The book is divided into three parts: Part I provides an overview of how IP is being integrated into mobile systems, including radio systems and cellular networks. Part II provides an overview of IP, the technologies used for transport and connectivity of today's cellular networks, and how the mobile core is evolving to encompass IP technologies. Part III provides an overview of the end-to-end services network based on IP, including context awareness and services. Presents an overview of what mobile networks look like today—including protocols used, transport technologies, and how IP is being used for specific functions in mobile networks Provides an all-inclusive reference manual for IP design theory as related to the broader application of IP for mobile networks Imparts a view of upcoming trends in mobility standards to better prepare a network evolution plan for IP-based mobile networks This book is part of the Networking Technology Series from Cisco Press®, which offers networking professionals valuable information for constructing efficient networks, understanding new technologies, and building successful careers. ciscopress.com This hands-on switching Lab Manual is the perfect companion for all Cisco Networking Academy students who are taking the new course CCNP SWITCH: Implementing IP Switched Networks (V. 7) as part of their CCNP preparation. It offers a portable, bound copy of all 19 CCNP V 7.x SWITCH network switching labs in a convenient, lightweight

format that allows students to walk through key procedures and easily take notes without a large textbook or a live Internet connection. Working with these conveniently-formatted labs, students will gain practical experience and skills for planning, configuring, and verifying the implementation of complex enterprise switching solutions using Cisco's Campus Enterprise Architecture; and for securely integrating VLANs, WLANs, voice, and video into campus networks. Router Security Strategies: Securing IP Network Traffic Planes provides a comprehensive approach to understand and implement IP traffic plane separation and protection on IP routers. This book details the distinct traffic planes of IP networks and the advanced techniques necessary to operationally secure them. This includes the data, control, management, and services planes that provide the infrastructure for IP networking. The first section provides a brief overview of the essential components of the Internet Protocol and IP networking. At the end of this section, you will understand the fundamental principles of defense in depth and breadth security as applied to IP traffic planes. Techniques to secure the IP data plane, IP control plane, IP management plane, and IP services plane are covered in detail in the second section. The final section provides case studies from both the enterprise network and the service provider network perspectives. In this way, the individual IP traffic plane security techniques reviewed in the second section of the book are brought together to help you create an integrated, comprehensive defense in depth and breadth security architecture. "Understanding and securing IP traffic planes are critical to the overall security posture of the IP infrastructure. The techniques detailed in this book provide protection and instrumentation enabling operators to understand and defend against attacks. As the vulnerability economy continues to mature, it is critical for both vendors and network providers to collaboratively deliver these protections to the IP infrastructure." –Russell Smoak, Director, Technical Services, Security Intelligence Engineering, Cisco Gregg Schudel, CCIE® No. 9591, joined Cisco in

2000 as a consulting system engineer supporting the U.S. service provider organization. Gregg focuses on IP core network security architectures and technology for interexchange carriers and web services providers. David J. Smith, CCIE No. 1986, joined Cisco in 1995 and is a consulting system engineer supporting the service provider organization. David focuses on IP core and edge architectures including IP routing, MPLS technologies, QoS, infrastructure security, and network telemetry.

Understand the operation of IP networks and routers
Learn about the many threat models facing IP networks, Layer 2 Ethernet switching environments, and IPsec and MPLS VPN services
Learn how to segment and protect each IP traffic plane by applying defense in depth and breadth principles
Use security techniques such as ACLs, rate limiting, IP Options filtering, uRPF, QoS, RTBH, QPPB, and many others to protect the data plane of IP and switched Ethernet networks
Secure the IP control plane with rACL, CoPP, GTSM, MD5, BGP and ICMP techniques and Layer 2 switched Ethernet-specific techniques
Protect the IP management plane with password management, SNMP, SSH, NTP, AAA, as well as other VPN management, out-of-band management, and remote access management techniques
Secure the IP services plane using recoloring, IP fragmentation control, MPLS label control, and other traffic classification and process control techniques

This security book is part of the Cisco Press® Networking Technology Series. Security titles from Cisco Press help networking professionals secure critical data and resources, prevent and mitigate network attacks, and build end-to-end self-defending networks. In 1994, W. Richard Stevens and Addison-Wesley published a networking classic: TCP/IP Illustrated. The model for that book was a brilliant, unfettered approach to networking concepts that has proven itself over time to be popular with readers of beginning to intermediate networking knowledge. The Illustrated Network takes this time-honored approach and modernizes it by creating not only a much larger and more complicated network, but also by incorporating all the networking

advancements that have taken place since the mid-1990s, which are many. This book takes the popular Stevens approach and modernizes it, employing 2008 equipment, operating systems, and router vendors. It presents an "illustrated" explanation of how TCP/IP works with consistent examples from a real, working network configuration that includes servers, routers, and workstations. Diagnostic traces allow the reader to follow the discussion with unprecedented clarity and precision. True to the title of the book, there are 330+ diagrams and screen shots, as well as topology diagrams and a unique repeating chapter opening diagram. Illustrations are also used as end-of-chapter questions. A complete and modern network was assembled to write this book, with all the material coming from real objects connected and running on the network, not assumptions. Presents a real world networking scenario the way the reader sees them in a device-agnostic world. Doesn't preach one platform or the other. Here are ten key differences between the two: Stevens Goralski's Older operating systems (AIX,svr4,etc.) Newer OSs (XP, Linux, FreeBSD, etc.) Two routers (Cisco, Telebit (obsolete)) Two routers (M-series, J-series) Slow Ethernet and SLIP link Fast Ethernet, Gigabit Ethernet, and SONET/SDH links (modern) Tcpcdump for traces Newer, better utility to capture traces (Ethereal, now has a new name!) No IPsec IPsec No multicast Multicast No router security discussed Firewall routers detailed No Web Full Web browser HTML consideration No IPv6 IPv6 overview Few configuration details More configuration details (ie, SSH, SSL, MPLS, ATM/FR consideration, wireless LANS, OSPF and BGP routing protocols New Modern Approach to Popular Topic Adopts the popular Stevens approach and modernizes it, giving the reader insights into the most up-to-date network equipment, operating systems, and router vendors. Shows and Tells Presents an illustrated explanation of how TCP/IP works with consistent examples from a real, working network configuration that includes servers, routers, and workstations, allowing the reader to follow the discussion with unprecedented clarity and precision.

Over 330 Illustrations True to the title, there are 330 diagrams, screen shots, topology diagrams, and a unique repeating chapter opening diagram to reinforce concepts Based on Actual Networks A complete and modern network was assembled to write this book, with all the material coming from real objects connected and running on the network, bringing the real world, not theory, into sharp focus. This book provides a detailed description of the various approaches developed to meet the demands for better message forwarding. It explores the architecture, design choices, and standard efforts. Aimed at the professional who integrates technologies for Wide Area Networks, this book offers comparison between ATM switching and switching technologies and prepare readers to make the best choice between the two. Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide is a Cisco authorized, self-paced learning tool for CCNP preparation. This book teaches readers how to design, configure, maintain, and scale routed networks that are growing in size and complexity. The book covers all routing principles covered in the CCNP Implementing Cisco IP Routing course. As part of the Cisco Press Self-Study series, Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide provides comprehensive foundation learning for the CCNP ROUTE exam. This revision to the popular Foundation Learning Guide format for Advanced Routing at the Professional level is fully updated to include complete coverage of all routing topics covered in the new Implementing Cisco IP Routing (ROUTE) course. The proposed book is an intermediate-level text, which assumes that readers have been exposed to beginner-level networking concepts contained in the CCNA (ICND1 and ICND2) certification curriculum. No previous exposure to the CCNP level subject matter is required, so the book provides a great deal of detail on the topics covered. Each chapter opens with a list of objectives to help focus the reader's study. Configuration exercises at the end of each chapter and a master lab exercise that ties all the topics together in the last chapter help illuminate

theoretical concepts. Key terms will be highlighted and defined throughout. Each chapter will conclude with a summary to help review key concepts, as well as review questions to reinforce the reader's understanding of what was covered. Now fully updated for the new Cisco SWITCH 300-115 exam, *Implementing Cisco IP Switched Networks (SWITCH) Foundation Learning Guide* is your Cisco® authorized learning tool for CCNP® or CCDP® preparation. Part of the Cisco Press Foundation Learning Series, it teaches you how to plan, configure, verify, secure, and maintain complex enterprise switching solutions using Cisco Catalyst® switches and Enterprise Campus Architecture. The authors show you how to build scalable multilayer switched networks, create and deploy global intranets, and perform basic troubleshooting in environments using Cisco multilayer switches for client hosts and services. They begin by reviewing basic switching concepts, network design, and campus network architecture. Next, they present in-depth coverage of spanning-tree, inter-VLAN routing, first-hop redundancy, network management, advanced switch features, high availability, and campus network security. Each chapter opens with a list of topics that clearly identify its focus. Each chapter ends with a summary of key concepts for quick study, as well as review questions to assess and reinforce your understanding. Throughout, configuration examples, and sample verification outputs illustrate critical issues in network operation and troubleshooting. This guide is ideal for all certification candidates who want to master all the topics covered on the SWITCH 300-115 exam. Serves as the official textbook for version 7 of the Cisco Networking Academy CCNP SWITCH course Covers basic switching terminology and concepts, and the unique features of Cisco Catalyst switch designs Reviews campus network design, including network structure, roles of Cisco Catalyst switches, and differences between Layer 2 and multilayer switches Introduces VLANs, VTP, Trunking, and port-channeling Explains Spanning Tree Protocol configuration Presents concepts and

modern best practices for interVLAN routing Covers first-hop redundancy protocols used by Cisco Catalyst switches Outlines a holistic approach to network management and Cisco Catalyst device security with AAA, NTP, 802.1x, and SNMP Describes how to use advanced features to improve campus network resiliency and availability Shows how to establish switch physical redundancy using Stackwise, VSS, or redundant supervisors Explains advanced security features. This complete guide to setting up and running a TCP/IP network is essential for network administrators, and invaluable for users of home systems that access the Internet. The book starts with the fundamentals -- what protocols do and how they work, how addresses and routing are used to move data through the network, how to set up your network connection -- and then covers, in detail, everything you need to know to exchange information via the Internet. Included are discussions on advanced routing protocols (RIPv2, OSPF, and BGP) and the gated software package that implements them, a tutorial on configuring important network services -- including DNS, Apache, sendmail, Samba, PPP, and DHCP -- as well as expanded chapters on troubleshooting and security. TCP/IP Network Administration is also a command and syntax reference for important packages such as gated, pppd, named, dhcpd, and sendmail. With coverage that includes Linux, Solaris, BSD, and System V TCP/IP implementations, the third edition contains: Overview of TCP/IP Delivering the data Network services Getting startedM Basic configuration Configuring the interface Configuring routing Configuring DNS Configuring network servers Configuring sendmail Configuring Apache Network security Troubleshooting Appendices include dip, pppd, and chat reference, a gated reference, a dhcpd reference, and a sendmail reference This new edition includes ways of configuring Samba to provide file and print sharing on networks that integrate Unix and Windows, and a new chapter is dedicated to the important task of configuring the Apache web server. Coverage of network security now includes details on OpenSSH, stunnel, gpg,

iptables, and the access control mechanism in xinetd. Plus, the book offers updated information about DNS, including details on BIND 8 and BIND 9, the role of classless IP addressing and network prefixes, and the changing role of registrars. Without a doubt, *TCP/IP Network Administration, 3rd Edition* is a must-have for all network administrators and anyone who deals with a network that transmits data over the Internet. This guide only contain practice questions and answers for the *Implementing Cisco IP Switched Networks* exam. *Switched Networks Companion Guide* is the official supplemental textbook for the *Switched Networks* course in the Cisco® *Networking Academy*® *CCNA*® *Routing and Switching* curriculum. This course describes the architecture, components, and operations of a converged switched network. You will learn about the hierarchical network design model and how to configure a switch for basic and advanced functionality. By the end of this course, you will be able to troubleshoot and resolve common issues with Virtual LANs and inter-VLAN routing in a converged network. You will also develop the knowledge and skills needed to implement a WLAN in a small-to-medium network. The *Companion Guide* is designed as a portable desk reference to use anytime, anywhere to reinforce the material from the course and organize your time. The book's features help you focus on important concepts to succeed in this course: **Chapter objectives**—Review core concepts by answering the focus questions listed at the beginning of each chapter. **Key terms**—Refer to the lists of networking vocabulary introduced and highlighted in context in each chapter. **Glossary**—Consult the comprehensive Glossary more than 300 terms. **Summary of Activities and Labs**—Maximize your study time with this complete list of all associated practice exercises at the end of each chapter. **Check Your Understanding**—Evaluate your readiness with the end-of-chapter questions that match the style of questions you see in the online course quizzes. The answer key explains each answer. Related Title: *Switched Networks Lab Manual* ISBN-10: 1-58713-327-X

ISBN-13: 978-1-58713-327-5 How To—Look for this icon to study the steps you need to learn to perform certain tasks. Interactive Activities—Reinforce your understanding of topics with all the different exercises from the online course identified throughout the book with this icon. Videos—Watch the videos embedded within the online course. Packet Tracer Activities—Explore and visualize networking concepts using Packet Tracer exercises interspersed throughout the chapters. Hands-on Labs—Work through all the course labs and Class Activities that are included in the course and published in the separate Lab Manual. "An introduction to network design with switches"--Cover. Now fully updated for the new Cisco SWITCH 300-115 exam, Implementing Cisco IP Switched Networks (SWITCH) Foundation Learning Guide is your Cisco® authorized learning tool for CCNP® or CCDP® preparation. Part of the Cisco Press Foundation Learning Series, it teaches you how to plan, configure, verify, secure, and maintain complex enterprise switching solutions using Cisco Catalyst® switches and Enterprise Campus Architecture. The authors show you how to build scalable multilayer switched networks, create and deploy global intranets, and perform basic troubleshooting in environments using Cisco multilayer switches for client hosts and services. They begin by reviewing basic switching concepts, network design, and campus network architecture. Next, they present in-depth coverage of spanning-tree, inter-VLAN routing, first-hop redundancy, network management, advanced switch features, high availability, and campus network security. Each chapter opens with a list of topics that clearly identify its focus. Each chapter ends with a summary of key concepts for quick study, as well as review questions to assess and reinforce your understanding. Throughout, configuration examples, and sample verification outputs illustrate critical issues in network operation and troubleshooting. This guide is ideal for all certification candidates who want to master all the topics covered on the SWITCH 300-115 exam. Serves as the official textbook for version 7 of the

Cisco Networking Academy CCNP SWITCH course Covers basic switching terminology and concepts, and the unique features of Cisco Catalyst switch designs Reviews campus network design, including network structure, roles of Cisco Catalyst switches, and differences between Layer 2 and multilayer switches Introduces VLANs, VTP, Trunking, and port-channeling Explains Spanning Tree Protocol configuration Presents concepts and modern best practices for interVLAN routing Covers first-hop redundancy protocols used by Cisco Catalyst switches Outlines a holistic approach to network management and Cisco Catalyst device security with AAA, NTP, 802.1x, and SNMP Describes how to use advanced features to improve campus network resiliency and availability Shows how to establish switch physical redundancy using Stackwise, VSS, or redundant supervisors Explains advanced security features Go beyond layer 2 broadcast domains with this in-depth tour of advanced link and internetwork layer protocols, and learn how they enable you to expand to larger topologies. An ideal follow-up to Packet Guide to Core Network Protocols, this concise guide dissects several of these protocols to explain their structure and operation. This isn't a book on packet theory. Author Bruce Hartpence built topologies in a lab as he wrote this guide, and each chapter includes several packet captures. You'll learn about protocol classification, static vs. dynamic topologies, and reasons for installing a particular route. This guide covers: Host routing—Process a routing table and learn how traffic starts out across a network Static routing—Build router routing tables and understand how forwarding decisions are made and processed Spanning Tree Protocol—Learn how this protocol is an integral part of every network containing switches Virtual Local Area Networks—Use VLANs to address the limitations of layer 2 networks Trunking—Get an indepth look at VLAN tagging and the 802.1Q protocol Routing Information Protocol—Understand how this distance vector protocol works in small, modern communication networks Open Shortest Path First—Discover why convergence

times of OSPF and other link state protocols are improved over distance vectors. Retaining the first edition's technology-centred perspective, this book gives readers a sound understanding of packet-switched, circuit-switched and ATM networks, and techniques for controlling them. Demonstrate your enterprise networking knowledge and expertise by earning a CCNP Routing and Switching certification. In this course, Greg Sowell prepares you for the Layer 2 Technologies portion of exam 300-115 SWITCH, Implementing Cisco IP Switched Networks—one of three required exams for the CCNP Routing and Switching certification. Here, Greg covers the fundamentals of switch network design, as well as SDM templates, switchport configuration and troubleshooting, and discovering connected devices. He also discusses VLAN, STP, and EtherChannel operation and configuration, Multilayer Switching, high availability, and more. The effective design of high-speed, reliable switching systems is essential for moving the huge volumes of traffic and multimedia over modern communications networks. This book explains all the main packet-switching architectures, including all theoretical and practical topics relevant to the design and management of high-speed networks. Delivering the most systematic coverage available of the subject, the authors interweave fundamental concepts with real-world applications and include engineering case studies from wireless and fiber-optic communications. Market: Hardware and Software Engineers in the telecommunication industry, System Engineers, and Technicians.

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