



Certificate of Course Completion



CCNA 2—Router and Routing Basics

During the Cisco® Networking Academy® CCNA 2 course administered by the undersigned instructor, the student was able to proficiently:

Diyana Kamaruzaman

Student's Name

September 30, 2007

Date

Pau, Kiu Nai

Instructor

Multimedia

University- Melaka
Academy Name
Campus

Melaka

Location

Instructor's Signature

- Identify the important characteristics of common WAN configurations and technologies, differentiate between these and common LAN technologies, and describe the role of a router in a WAN
- Identify the major internal and external components of a router and describe the associated functionality
- Properly connect router Fast Ethernet, Serial WAN, and console ports
- Describe the purpose and fundamental operation of the router operating system (IOS®)
- Establish communication between a terminal device and the router operating system (IOS) and use it for system analysis, configuration, and repairs
- Perform, save, and test an initial configuration on a router
- Configure additional administrative functionality on a router
- Use embedded data-link layer functionality to perform network neighbor discovery and analysis from the router console
- Use embedded Layer 3 through Layer 7 protocols to establish, test, suspend, or disconnect connectivity to remote devices from the router console
- Identify the stages of the router boot-up sequence and show how the **configuration-register** and **boot system** commands modify that sequence
- Manage system image and device configuration files
- Identify, configure, and verify the use of static and default routes
- Evaluate the characteristics of routing protocols
- Identify, analyze, and show how to rectify inherent problems associated with distance vector routing protocols
- Configure, verify, analyze, and troubleshoot simple distance vector routing protocols
- Describe the operation of ICMP and identify the reasons, types, and format of associated error and control messages
- Use embedded Layer 3 through Layer 7 protocols to establish, test, suspend, or disconnect connectivity to remote devices from the router console
- Use the commands incorporated within Cisco IOS Software to analyze and rectify network problems
- Describe the operation of the major transport layer protocols and the interaction and transportation of application layer data
- Identify the application of packet control with various access control lists
- Analyze, configure, implement, verify, and rectify access control lists within a router configuration



September 30, 2007

Dear Diyana Kamaruzaman

Congratulations! You have successfully completed CCNA 2 Routers and Routing Basics of the Cisco Networking Academy Program.

During the course, you have developed a solid foundation in the basics of networking, demonstrating knowledge of important concepts and skills, including the OSI model, Ethernet networks running TCP/IP, IP addressing, and structured cabling skills.

Information technology skills are in high demand given the explosive growth of the Internet as a practical business tool. Technological literacy is more important today than ever before, and Cisco is proud to provide you with the knowledge and skills to design, build, and maintain computer networks.

Wishing you continued success in CCNA 3!

Sincerely,

A handwritten signature in black ink that reads "John Chambers". The signature is written in a cursive, flowing style.

John Chambers
President and CEO
Cisco Systems, Inc.