



# 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:

- 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

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Date

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Location

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