



CCIE Routing and Switching v5.0 Troubleshooting Practice Labs

Second Edition

Martin J. Duggan

Cisco Press

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800 East 96th Street

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Neil Shaw, CCIE No. 28866, is a network consultant for AT&T with more than 16 years of IT industry experience. Specializing in data center and enterprise networking for the past 8 years, Neil's experience includes design, implementation, and troubleshooting of IP networks with key skills in security, routing, and switching.

Dedication

I would like to dedicate this publication to my kids: Anna, James, and Jakey. Anna and James, I really value our time together; we can get some snowboarding in now that this project is complete and maybe do some more high-altitude driving lessons. James, based on your GoPro shooting and editing skills, you are bound to win a BAFTA; and Anna, I expect you to be modeling for and running Hollister anytime soon. Jakey, now that you have progressed to solids I think we can begin CCNA classes. Your mom is going to kill me, though, if your first word is *Cisco*. Just give her one of your heart-melting smiles, and we might just get away with it.

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Command Syntax Conventions

The conventions used to present command syntax in this book are the same conventions used in the IOS Command Reference. The Command Reference describes these conventions as follows:

- **Boldface** indicates commands and keywords that are entered literally as shown. In actual configuration examples and output (not general command syntax), boldface indicates commands that are manually input by the user (such as a **show** command).
- *Italic* indicates arguments for which you supply actual values.
- Vertical bars (|) separate alternative, mutually exclusive elements.
- Square brackets ([]) indicate an optional element.
- Braces ({ }) indicate a required choice.
- Braces within brackets ([{ }]) indicate a required choice within an optional element.