This course supports the assessments for COV1. The course covers 6 competencies and represents 3 competency units.

Introduction

Overview
Welcome to the Fundamentals of Interconnecting Network Devices Course. The exam for this course will earn you your Cisco Certified Entry Working Technician (CCENT) Certification; Cisco calls this the Interconnection Cisco Networking Devices Part 1 Exam (ICND1 100-101). Though the concepts covered in the exam are not necessarily difficult, the sheer volume of information is daunting, and you are asked to know things by memory that you would normally be able to look up; therefore, previous experience with the exam content may or may not be enough for you to pass without following the steps laid out in this course.

One risky predisposition for both the experienced and beginner is to rely on practice exams. Do not make this mistake! The questions on the (ICND1-100-101) exam will be phrased differently than the practice exams, will offer dissimilar choices, and will very likely use different terminology. Unfortunately, most students who only use practice exams as preparation for the (ICND1-100-101) do not internalize this caution until their first failure. Use practice exams for the reason they are intended—to discover weak areas for further studying and review.

As a final word of caution, view the exam comments of other students cautiously. Each version of the (ICND1-100-101) is different. If others advise you to skip studying a piece of technology because it was not on the exam, what they mean is that it was not on their exam—it might be on yours.

Note: To download this video, right-click the following link and choose “Save as...”:

Competencies
This course provides guidance to help you demonstrate the following 6 competencies:

- **Competency 419.3.1: Network Topologies**
  The graduate distinguishes and explains network topologies, including protocols, ports, addressing schemes, routing, and wireless communication standards.

- **Competency 419.3.2: Media and Topologies**
  The graduate differentiates and explains physical and logical topologies, including wiring standards.

- **Competency 419.3.3: Network Devices**
  The graduate differentiates and installs/configures network devices.

- **Competency 419.3.4: Network Connectivity and Performance Methodologies**
  The graduate identifies appropriate methodologies for troubleshooting network connectivity and performance issues in a given network environment.

- **Competency 419.3.5: Network Troubleshooting Utilities and Analysis**
The graduate uses hardware and software utilities to track and maintain network performance in optimized state.

- **Competency 419.3.6: Network Security Devices**
  The graduate differentiates and explains network security devices and methods for troubleshooting common security threats.

**Course Instructor Assistance**
As you prepare to successfully demonstrate competency in this subject, remember that course instructors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you're studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things don't work out on your first try, course instructors act as a support system to guide you through the revision process. You should expect to work with course instructors for the duration of your coursework, so you are welcome to contact them as soon as you begin. Course instructors are fully committed to your success!

**Preparing for Success**

The information in this section is provided to detail the resources available for you to use as you complete this course.

**Learning Resources**
The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

**Enroll in Learning Resources**

You will need to enroll in or subscribe to learning resources as a part of this course. You may already have enrolled in these resources for other courses. Please check the “Learning Resources” tab and verify that you have access to the following learning resources. If you do not currently have access, please enroll or renew your enrollment at this time.

*Note: For instructions on how to enroll in or subscribe to learning resources through the “Learning Resources” tab, please see the “Acquiring Your Learning Resources” page.*

**Pearson Network Simulator**
The Pearson network simulator is a software program designed to simulate Cisco routers and switches. After downloading and installing the program, you will use it to practice CLI commands for Cisco hardware. This will allow you to see the interaction between the different devices and prepare for the simulation questions found on the exam.
Cisco Learning Labs
The Cisco online learning labs provide hands-on experience configuring routers and switches. The online environment simulates Cisco hardware, allowing you to practice in the command line interface (CLI). The knowledge of these commands will be necessary to answer the simulation questions found in the exam.

Automatically Enrolled Learning Resources

You will be automatically enrolled at the activity level for the following learning resources. Simply click on the links provided in the activities to access the learning materials.

Vital Source E-Texts
The following textbook is available to you as an e-text within this course. You will be directly linked to the specific readings required within the activities that follow.


*Note: This e-text is available to you as part of your program tuition and fees, but you may purchase hard copies at your own expense through a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition.*

CBT Nuggets
You will access the following CBT Nuggets course within the activities of this course:

- Cisco CCENT/CCNA ICND1 100-101

The Cisco CCENT/CCNA ICND1 100-101 course includes over 23 hours of interactive training comprised of 40 different videos. This comprehensive training includes an introduction to the exam, network theory and best practice, and demonstrations of Cisco equipment using the CLI.

Transcender Practice Exam
The Transcender practice exam allows you to test your subject knowledge after utilizing the other learning resources. The practice exam will pinpoint any subject areas you may have missed during your studies. It also gives you a feel for the assessment exam format and terminology. The practice exam contains questions based on the assessment exam content, including detailed simulation questions to prepare you for what you will see on the exam. The practice exam does not contain final exam questions, so avoid memorization of questions and answers, as this will not help you pass the final exam.

Additional Preparations

Cisco Learning Network
Cisco hosts the [Cisco Learning Network](#). This network supports individuals working toward Cisco certifications. The Cisco Learning Network provides you access to other individuals currently working on the same certifications as well as exam preparation content.

Register for an account on this website; it is free and easy to join.
Pacing Guide
The pacing guide suggests a weekly structure to pace your completion of learning activities. It is provided as a suggestion and does not represent a mandatory schedule. Follow the pacing guide carefully to complete the course in the suggested timeframe.

- Pacing Guide: Fundamentals of Interconnecting Network Devices

Note: This pacing guide does not replace the course. Please continue to refer to the course for a comprehensive list of the resources and activities.

Cisco Networking Devices Content
The resources provided in this course are separate, independent resources. The best approach to passing the certification exam is reviewing all the material from the multiple sources over a period of 8–12 weeks.

The most successful students for the course engage in all of the learning resources provided.

While some of the material is duplicated between the videos, books, simulator, and practice exams, it is often helpful to review the material from the different sources. Individuals have different learning styles and will prefer different formats, but all resources should be reviewed.

It is generally recommended to approach the content in the following order:

1. videos
2. books
3. simulator
4. practice exams

Take the practice exams last, as they will reveal any areas missed from the other resources. You can then go back to the targeted content and enhance your learning as necessary.

CBT Nuggets
The CBT Nuggets videos are an excellent overview to the exam by presenting all of the material in an easy-to-view video format. They are useful as an introduction to the content and general concepts of the exam.

This topic addresses the following competencies:

- Competency 419.3.1: Network Topologies
  The graduate distinguishes and explains network topologies, including protocols, ports, addressing schemes, routing, and wireless communication standards.

- Competency 419.3.2: Media and Topologies
  The graduate differentiates and explains physical and logical topologies, including wiring standards.

- Competency 419.3.3: Network Devices
  The graduate differentiates and installs/configures network devices.
• Competency 419.3.4: Network Connectivity and Performance Methodologies
  The graduate identifies appropriate methodologies for troubleshooting network connectivity and performance issues in a given network environment.

• Competency 419.3.5: Network Troubleshooting Utilities and Analysis
  The graduate uses hardware and software utilities to track and maintain network performance in optimized state.

• Competency 419.3.6: Network Security Devices
  The graduate differentiates and explains network security devices and methods for troubleshooting common security threats.

This section highlights the following learning objectives:

• Explain how a specified common networking protocol functions.
• Explain how a specified commonly used Transmission Control Protocol (TCP) or User Datagram Protocol (UDP) default port functions.
• Explain the difference between Internet protocol and media access addressing formats.
• Evaluate whether the use of a given addressing technology or addressing scheme is appropriate in a given scenario.
• Distinguish between the Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) routing protocols.
• Explain the purpose of routing.
• Discuss the properties of routing.
• Compare specified characteristics of given wireless communication standards.
• Differentiate between the properties of specified standard cable types.
• Differentiate between the characteristics of specified common connector types.
• Differentiate between the characteristics of specified common physical network topologies.
• Differentiate between specified wiring standards.
• Implement an appropriate wiring standard in a given scenario.
• Describe the properties of a given wide area network (WAN) technology type.
• Describe the properties of a given local area network (LAN) technology type.
• Discuss the characteristics of a given common logical network topology.
• Differentiate between specified components of a given wiring distribution.
• Install a specified component of a wiring distribution in a given scenario.
• Differentiate between specified common network devices.
• Install/configure a specified network device in a given scenario.
• Differentiate the functions of specified specialized network devices.
• Differentiate the advanced features of a given switch.
• Describe the function of each layer of the Open System Interconnection (OSI) model.
• Differentiate specified types of configuration management documentation.
• Differentiate specified methods or rationales for network performance optimization.
• Create an action plan for network troubleshooting for a given scenario.
• Create an action plan for measuring effectiveness of performance improvement for a given scenario.
• Differentiate troubleshooting methodologies for a given network physical connectivity issue associated with a specified hardware connectivity device.
- Differentiate troubleshooting methodologies for a given network logical connectivity issue associated with a specified system or network configuration issue.
- Document the solution determined by troubleshooting a given wireless network connectivity issue associated with a specified type or level of security method.
- Describe a specified network utility for monitoring network performance and connectivity.
- Describe a specified network utility for troubleshooting a given network connectivity issue associated with a hardware device.
- Describe a specified network utility for troubleshooting a given network connectivity issue associated with a system or network configuration.
- Troubleshoot a given network performance issue using a specified network utility or system tool.
- Apply a specified network utility to trace the cause of a given network performance or connectivity issue.
- Apply an appropriate command line interface tool to interpret the output or to verify functionality in a given scenario.
- Identify the appropriate network scanner to perform a given type of analysis.
- Utilize an appropriate hardware tool to troubleshoot or maintain a given network.
- Use an appropriate network utility to measure the effects of a specified solution to a given problem.
- Differentiate the functions of specified hardware and software security devices.
- Differentiate common features of firewalls.
- Specify security guidelines to follow when securing access to network using a specified network security device.
- Differentiate specified methods of user authentication.
- Differentiate specified issues that affect device security.
- Differentiate specified common security threats or mitigation techniques.

CBT Nuggets

Each CBT Nuggets video covers a different concept found on the exam. Because each video is intended to build upon those prior to it, you should complete the videos in sequential order.

Complete each section in the following CBT Nuggets course:

- Cisco CCENT/CCNA ICND1 100-101

Note: Please remember to proceed in order.

Video Titles

- Welcome to ICND1
- Cisco Foundations: Network Components, Diagrams, Cables and Speed
- Cisco Foundations: Speaking the Language of the OSI Model
- Cisco Foundations: Basic IP Addressing
- Cisco Foundations: Basic IP Addressing – Filling in the Gaps
- Cisco Foundations: How Applications Speak – TCP and UDP
- Cisco Foundations: How Applications Speak – TCP and UDP. Part 2
- Cisco Foundations: Configuring a Cisco Device – Programs and Console Connections
- Switching – Welcome to the World of Switching
- Switching – Working with the Cisco IOS
- Switching – Base Configuration
- Switching – Base Configuration, Part 2
- Switching – Configuring SSH, User Accounts and Password Encryption
- Switching – Managing Port Security
- Switching – Day to Day
- Switching – Understanding VLANs and Trunks
- Switching – Understanding VTP and 802.1q
- Switching – Configuring Trunking, VTP, and VLANs
- Routing: Understanding Routing Core
- Routing: Practical Routing – Enhancing VLANs
- Routing: Speaking Binary
- Routing: Creating Subnets Based on Network Requirements
- Routing: Creating Subnets Based on Host Requirements
- Routing: Reverse Engineering Subnet Problems
- Routing: Variable Length Subnet Masking (VLSM)
- Routing: Implementing Static Routing
- Routing: routing Protocols Concepts
- Routing: Understanding and Configuring OSPF
- Routing: Using Access Control Lists
- Routing: Configuring and Applying Standard Access Controls Control Lists
- Routing: Configuring and Applying Extended Controls Control Lists
- Routing: NAT Concepts
- Routing: NAT Configuration
- Routing: IPv6 Concepts
- Routing: IPv6 Configuration
- Cisco Certification – Building a CCNA Lab
- Cisco Certification – Studying for Cisco Exams
- Cisco Certification – My Journey
- ICND1 Supplement: Floating Statics, DHCP Services and CDP
- ICND1 Supplement: Using Show Commands like a Cisco Ninja

**Cisco Press Book and Labs**

The textbook included with this course is the official certification guide, *CCENT/CCNA ICND1 100-101* (1st Edition). The book is broken down into the following seven major parts:

- Part I: Networking Fundamentals
- Part II: Ethernet LANs and Switching
- Part III: IPv4 Addressing and Subnetting
- Part IV: Implementing IP Version 4
- Part V: Advanced IPv4 Addressing Concepts
- Part VI: IPv4 Services
- Part VII: IP Version 6
- Part VIII: Final Review
Part IX: Appendixes

This topic addresses the following competencies:

- **Competency 419.3.1: Network Topologies**
  The graduate distinguishes and explains network topologies, including protocols, ports, addressing schemes, routing, and wireless communication standards.

- **Competency 419.3.2: Media and Topologies**
  The graduate differentiates and explains physical and logical topologies, including wiring standards.

- **Competency 419.3.3: Network Devices**
  The graduate differentiates and installs/configures network devices.

- **Competency 419.3.4: Network Connectivity and Performance Methodologies**
  The graduate identifies appropriate methodologies for troubleshooting network connectivity and performance issues in a given network environment.

- **Competency 419.3.5: Network Troubleshooting Utilities and Analysis**
  The graduate uses hardware and software utilities to track and maintain network performance in optimized state.

- **Competency 419.3.6: Network Security Devices**
  The graduate differentiates and explains network security devices and methods for troubleshooting common security threats.

This section highlights the following learning objectives:

- Explain how a specified common networking protocol functions.
- Explain how a specified commonly used Transmission Control Protocol (TCP) or User Datagram Protocol (UDP) default port functions.
- Explain the difference between Internet protocol and media access addressing formats.
- Evaluate whether the use of a given addressing technology or addressing scheme is appropriate in a given scenario.
- Distinguish between the Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) routing protocols.
- Explain the purpose of routing.
- Discuss the properties of routing.
- Compare specified characteristics of given wireless communication standards.
- Differentiate between the properties of specified standard cable types.
- Differentiate between the characteristics of specified common connector types.
- Differentiate between the characteristics of specified common physical network topologies.
- Differentiate between specified wiring standards.
- Implement an appropriate wiring standard in a given scenario.
- Describe the properties of a given wide area network (WAN) technology type.
- Describe the properties of a given local area network (LAN) technology type.
- Discuss the characteristics of a given common logical network topology.
- Differentiate between specified components of a given wiring distribution.
- Install a specified component of a wiring distribution in a given scenario.
• Differentiate between specified common network devices.
• Install/configure a specified network device in a given scenario.
• Differentiate the functions of specified specialized network devices.
• Differentiate the advanced features of a given switch.
• Describe the function of each layer of the Open System Interconnection (OSI) model.
• Differentiate specified types of configuration management documentation.
• Differentiate specified methods or rationales for network performance optimization.
• Create an action plan for network troubleshooting for a given scenario.
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• Document the solution determined by troubleshooting a given wireless network connectivity issue associated with a specified type or level of security method.
• Describe a specified network utility for monitoring network performance and connectivity.
• Describe a specified network utility for troubleshooting a given network connectivity issue associated with a hardware device.
• Describe a specified network utility for troubleshooting a given network connectivity issue associated with a system or network configuration.
• Troubleshoot a given network performance issue using a specified network utility or system tool.
• Apply a specified network utility to trace the cause of a given network performance or connectivity issue.
• Apply an appropriate command line interface tool to interpret the output or to verify functionality in a given scenario.
• Identify the appropriate network scanner to perform a given type of analysis.
• Utilize an appropriate hardware tool to troubleshoot or maintain a given network.
• Use an appropriate network utility to measure the effects of a specified solution to a given problem.
• Differentiate the functions of specified hardware and software security devices.
• Differentiate common features of firewalls.
• Specify security guidelines to follow when securing access to network using a specified network security device.
• Differentiate specified methods of user authentication.
• Differentiate specified issues that affect device security.
• Differentiate specified common security threats or mitigation techniques.

Official Certification Guide

CCENT/CCNA ICND1 100-101 is the official Cisco guide to the exam. The book is an 800+ page reference containing all of the in-depth technical details needed to pass the exam. It is most useful for the multiple-choice questions you will find on the official certification exam.

Pay close attention to the “Do I Know This Already?” quizzes at the beginning of each chapter and the exam preparation tasks at the end of each chapter as you review the book.
Read and review the textbook until you understand the content and can pass the certification exam.

*Note: Although the book presents the same content as the CBT Nuggets resources, it often helpful to review material from different sources to fully understand and retain a full breadth of the content.*

**Pearson Network Simulator**

Work through the provided labs to help you apply the information from the videos and the textbook.

Typing the actual CLI commands will allow you to see the interaction between the different devices. It will also prepare you for the simulation questions found on the exam. The following chart is an outline of the available labs:

**Skill Builder**

- Part 1: Navigation and Administration
- Part 2: LAN Switching
- Part 3: IP Addressing, Routing, and WANS

**Configuration Scenarios**

- Part 1: Navigation and Administration
- Part 2: LAN Switching
- Part 3: IP Addressing, Routing, and WANS

**Troubleshooting Scenarios**

- Part 1: Troubleshooting Labs

**CCNA Portable Command Guide**

The CCNA portable guide should be used as a reference while working through the labs. The guide will allow you to research the commands found in the practice lab and will serve as a review while preparing for the simulation questions found in the actual exam.

CCNA Routing and Switching Portable Command Guide 3e
https://lrps.wgu.edu/provision/48317559

CHAPTER 1 How to Subnet
https://lrps.wgu.edu/provision/48318426

CHAPTER 2 VLSM
https://lrps.wgu.edu/provision/48318906
CHAPTER 3 Route Summarization
https://lrps.wgu.edu/provision/48354321

CHAPTER 4 Cables and Connections
https://lrps.wgu.edu/provision/48354432

CHAPTER 5 The Command Line Interface
https://lrps.wgu.edu/provision/48357720

CHAPTER 6 Configuring a Single Cisco Router
https://lrps.wgu.edu/provision/48358178

CHAPTER 7 Static Routing
https://lrps.wgu.edu/provision/48358270

CHAPTER 8 EIGRP
https://lrps.wgu.edu/provision/48358317

CHAPTER 9 Single-Area OSPF
https://lrps.wgu.edu/provision/48358399

CHAPTER 10 Multi-Area OSPF
https://lrps.wgu.edu/provision/48358460

CHAPTER 11 Configuring a Switch
https://lrps.wgu.edu/provision/48358592

CHAPTER 12 VLANs
https://lrps.wgu.edu/provision/48358685

CHAPTER 13 VLAN Trunking Protocol and Inter-VLAN Communication
https://lrps.wgu.edu/provision/48359354

CHAPTER 14 Spanning Tree Protocol and EtherChannel
https://lrps.wgu.edu/provision/48359489

CHAPTER 15 HSRP and GLBP
https://lrps.wgu.edu/provision/48359589

CHAPTER 16 IPv6
https://lrps.wgu.edu/provision/48359773

CHAPTER 17 OSPFv3
https://lrps.wgu.edu/provision/48359883
CHAPTER 18 EIGRP for IPv6
https://lrps.wgu.edu/provision/48359983

CHAPTER 19 Backing Up and Restoring Cisco IOS Software and Configurations
https://lrps.wgu.edu/provision/48360535

CHAPTER 20 Password-Recovery Procedures and the Configuration Register
https://lrps.wgu.edu/provision/48360632

CHAPTER 21 Cisco Discovery Protocol (CDP)
https://lrps.wgu.edu/provision/48360765

CHAPTER 22 Remote Connectivity Using Telnet or SSH
https://lrps.wgu.edu/provision/48360825

CHAPTER 23 Verifying End-to-End Connectivity
https://lrps.wgu.edu/provision/48361029

CHAPTER 24 Configuring Network Management Protocols
https://lrps.wgu.edu/provision/48361099

CHAPTER 25 Basic Troubleshooting
https://lrps.wgu.edu/provision/48361177

CHAPTER 26 Cisco IOS Licensing
https://lrps.wgu.edu/provision/48361249

CHAPTER 27 Network Address Translation
https://lrps.wgu.edu/provision/48361397

CHAPTER 28 Dynamic Host Configuration Protocol (DHCP)
https://lrps.wgu.edu/provision/48361691

CHAPTER 29 Configuring Serial Encapsulation: HDLC and PPP
https://lrps.wgu.edu/provision/48361773

CHAPTER 30 Establishing WAN Connectivity Using Frame Relay
https://lrps.wgu.edu/provision/48361870

CHAPTER 31 Configuring Generic Routing Encapsulation (GRE) Tunnels
https://lrps.wgu.edu/provision/48361954

CHAPTER 32 Configuring Point-to-Point Protocol over Ethernet (PPPoE)
https://lrps.wgu.edu/provision/48362017
CHAPTER 33 Managing Traffic Using Access Control Lists (ACL)
https://lrps.wgu.edu/provision/48362088

APPENDIX A Binary/Hex/Decimal Conversion Chart
https://lrps.wgu.edu/provision/48362165

APPENDIX B Create Your Own Journal Here
https://lrps.wgu.edu/provision/48362223

Cisco Resources
The Cisco learning labs environment provides hands-on experience for all of the CLI commands of Cisco routers and switches. This allows you to practice what you have learned from both the videos and textbook. It is also useful for the simulation questions found on the exam.

This topic addresses the following competencies:

- **Competency 419.3.1: Network Topologies**
  The graduate distinguishes and explains network topologies, including protocols, ports, addressing schemes, routing, and wireless communication standards.

- **Competency 419.3.2: Media and Topologies**
  The graduate differentiates and explains physical and logical topologies, including wiring standards.

- **Competency 419.3.3: Network Devices**
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- **Competency 419.3.4: Network Connectivity and Performance Methodologies**
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This section highlights the following learning objectives:

- Explain how a specified common networking protocol functions.
- Explain how a specified commonly used Transmission Control Protocol (TCP) or User Datagram Protocol (UDP) default port functions.
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- Differentiate between the characteristics of specified common physical network topologies.
- Differentiate between specified wiring standards.
- Implement an appropriate wiring standard in a given scenario.
- Describe the properties of a given wide area network (WAN) technology type.
- Describe the properties of a given local area network (LAN) technology type.
- Discuss the characteristics of a given common logical network topology.
- Differentiate between specified components of a given wiring distribution.
- Install a specified component of a wiring distribution in a given scenario.
- Differentiate between specified common network devices.
- Install/configure a specified network device in a given scenario.
- Differentiate the functions of specified specialized network devices.
- Differentiate the advanced features of a given switch.
- Describe the function of each layer of the Open System Interconnection (OSI) model.
- Differentiate specified types of configuration management documentation.
- Differentiate specified methods or rationales for network performance optimization.
- Create an action plan for network troubleshooting for a given scenario.
- Create an action plan for measuring effectiveness of performance improvement for a given scenario.
- Differentiate troubleshooting methodologies for a given network physical connectivity issue associated with a specified hardware connectivity device.
- Differentiate troubleshooting methodologies for a given network logical connectivity issue associated with a specified system or network configuration issue.
- Document the solution determined by troubleshooting a given wireless network connectivity issue associated with a specified type or level of security method.
- Describe a specified network utility for monitoring network performance and connectivity.
- Describe a specified network utility for troubleshooting a given network connectivity issue associated with a hardware device.
- Describe a specified network utility for troubleshooting a given network connectivity issue associated with a system or network configuration.
- Troubleshoot a given network performance issue using a specified network utility or system tool.
- Apply a specified network utility to trace the cause of a given network performance or connectivity issue.
- Apply an appropriate command line interface tool to interpret the output or to verify functionality in a given scenario.
- Identify the appropriate network scanner to perform a given type of analysis.
- Utilize an appropriate hardware tool to troubleshoot or maintain a given network.
- Use an appropriate network utility to measure the effects of a specified solution to a given problem.
- Differentiate the functions of specified hardware and software security devices.
- Differentiate common features of firewalls.
- Specify security guidelines to follow when securing access to network using a specified...
network security device.
- Differentiate specified methods of user authentication.
- Differentiate specified issues that affect device security.
- Differentiate specified common security threats or mitigation techniques.

Cisco Learning Labs

Work through the provided labs to help you apply the information from the videos and the textbook.

Typing the actual CLI commands will allow you to see the interaction between the different devices. It will also prepare you for the simulation questions found on the exam.

The following chart is an outline of the available labs:

<table>
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<tr>
<th>ICND1 Lab 1-1</th>
<th>Performing Switch Startup and Initial Configuration</th>
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<td>ICND1 Lab 1-2a</td>
<td>Troubleshooting Switch Media Issues</td>
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<td>ICND1 Lab 1-2b</td>
<td>Troubleshoot Connectivity Between Switch SW1 and the Branch Router</td>
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<td>ICND1 Lab 2-1</td>
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<td>ICND1 Lab 4-1</td>
<td>Configuring Expanded Switched Networks</td>
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<td>Configuring DHCP Server</td>
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<td>Configure and Verify Basic IPv6</td>
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<td>ICND1 Lab 5-2</td>
<td>Configure and Verify Stateless Autoconfiguration</td>
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<td>ICND1 Lab 5-3</td>
<td>Configure and Verify IPv6 Routing</td>
</tr>
<tr>
<td>ICND1 Lab 6-1</td>
<td>ICND1 Superlab</td>
</tr>
</tbody>
</table>

Practice Exams

The practice exams will reveal any content areas in which you may still be weak. Please review areas in which you are not scoring well before taking the final exam.

Final Steps
Congratulations on completing the activities in this course! This course has prepared you to complete the assessments associated with this course. If you have not already been directed to complete the assessments, schedule and complete your assessments now.

First Attempt Checklist

One of the many things that makes WGU unique is its competency-based education model. If you know the material, all you have to do is prove it by passing the exam. If you can do this, you can accelerate the receipt of your degree.

To make sure you have the best chance possible to pass the exam on your first attempt, the following items should be completed:

1. Review the CBT Nuggets videos.
2. Review the Official Certification Guide, completing the end-of-chapter quizzes and reviews.
3. Complete the lab exercises on both the Pearson Network Simulator and the Cisco Online Learning Labs. CLI commands will be required for the simulation questions on the exams, especially the various SHOW commands and their output.
4. Make sure you have a thorough understanding of VLSM subnetting. Be prepared to identify correct network addresses, broadcast addresses, and number of hosts for /24 - /32 subnets.
5. Test your exam readiness with the online Transcender practice exam. Don’t just try for a passing score, review the questions you missed and understand why you got them wrong.

If you have completed the steps above and you feel comfortable with all of the concepts presented, you are most likely ready to attempt the exam.

If you fail your first attempt of the exam, you will be required to get in contact with the course instructor to see what went wrong and how you can prepare to make sure your second attempt is a success. Only after determining you are ready, your course instructor will approve your request to make another exam attempt.