Cisco Networking Academy® Mind Wide Open™

CCNA Preparation Tutorial

Session 1 of 3





José Pablo Esquivel joesquiv@cisco.com



Wadih Zaatar wazaatar@cisco.com



Technical Advocacy Cisco Networking Academy

CNA rev 6

What is the CCNA Tutorial?

- 3 online consecutive sessions
- 2 sets of Practice Exams
- 4 Packet Tracer Simulation Exercises (PT 5.1)
- NOT a boot camp for CCNA certification
- NOT a replacement for instructor training
- Does not guarantee you will pass your CCNA exam

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What is the CCNA Tutorial?

- To provide an understanding of what formats and question types you should be expecting
- To provide you the first hand experience of the challenges you and your students may go through in preparing for CCNA Certification
- To help you gain the experience that you can use to help mentor your students for CCNA certification preparation
- We strongly recommend you to attempt the CCNA Certification exam within the next 30 days

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Prerequisites Checklist

- Active Cisco Networking Academy Instructor
- Willing to request the CCNA Certification Voucher (provided from Exam Fee Waiver Program)
- Prepared to take CCNA certification shortly
- Willing to report back happy results about the certification exam (optional)

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CCNA Tutorial Agenda

 Session 1: Monday (2 hours)
 Exam Question Formats, Tips for taking CCNA exam Legends vs. Truth, Suggested Golden Rules
 Homework after session 1:

Practice Exam questions Set 1; PT Simulation Questions Set 1

 Session 2: Wednesday (2 hours) Practice Exam and PT questions Set 1; review answer with Q & A. Homework after session 2:

Practice Exam questions Set 2, PT Simulation Questions Set 2

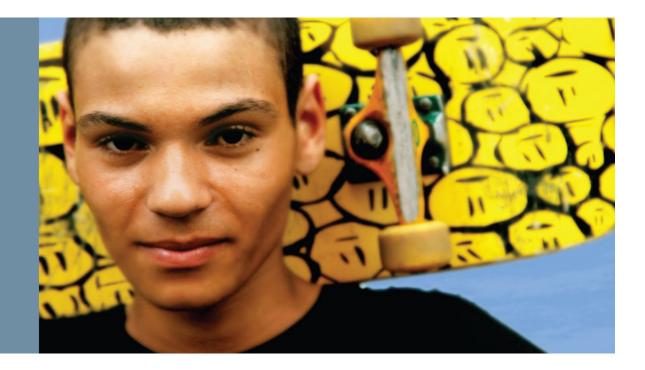
 Session 3: Friday (2 hours) Practice Exam and PT questions Set 2; review answer with Q & A. How to apply for your CCAI status. How to request your Exam Voucher and Register for an Exam

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Certificate of Completion

- The Team is working on a "Professional Development" document that recognizes the effort of attending these sessions
- Will be sent to all instructors that will participate and complete the 3 sessions

Session 1 Introduction



Agenda

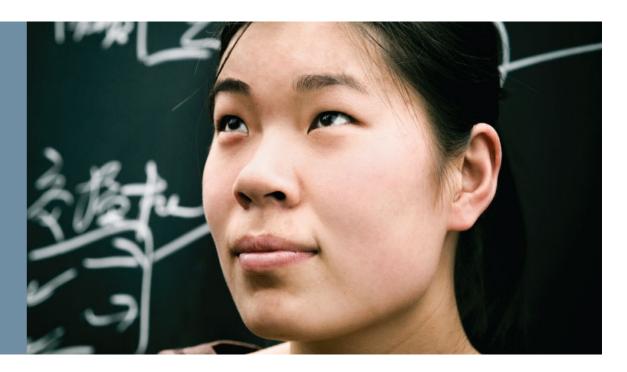
- Exam Overview & Options
- Study Resources
- Exam Question Formats
- Tips for Taking the Exams
- Legends/Truths
- Time Budgeting
- Q&A

Impossible to cover all topics for CCNA in two-hour session

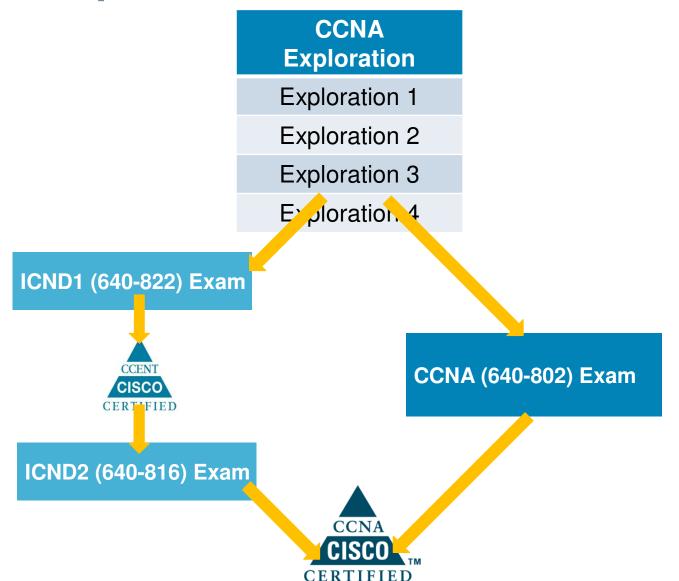
Session is about "how to prepare for the CCNA Exam", not about "cover all CCNA knowledge in two hours"

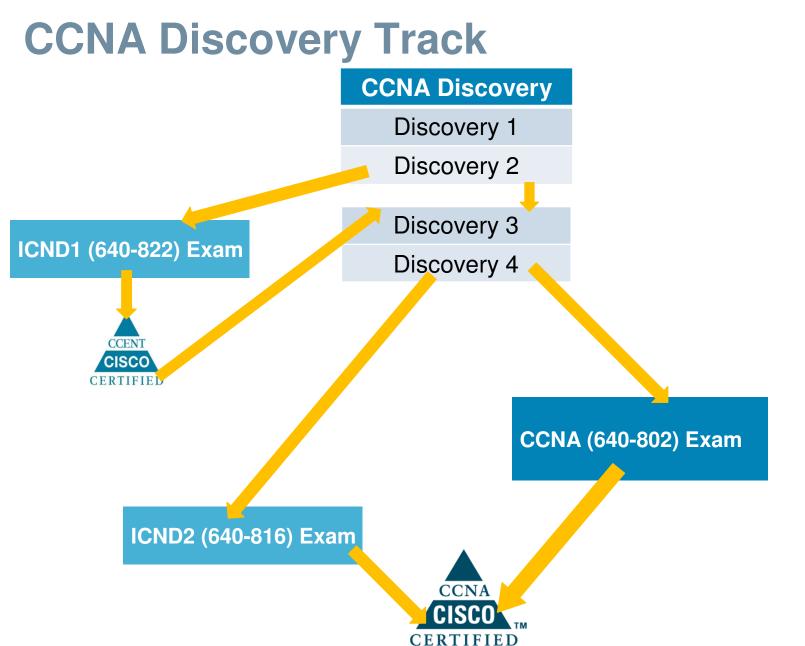
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Exam Overview and Options



CCNA Exploration Track





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CCNA Exam (640-802)

CCNA (640-802) Exam Topics

ICND2 (640-816) Exam Topics

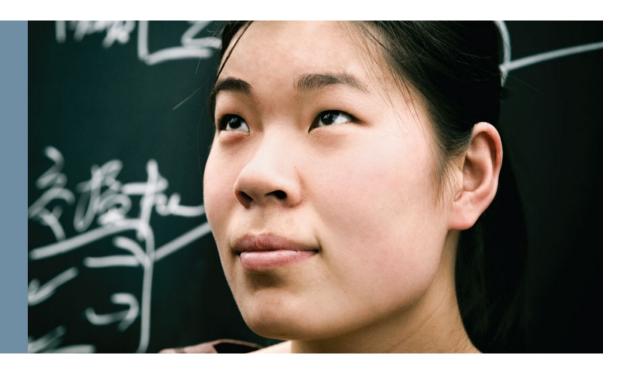
ICND1 (640-822) Exam Topics

From an exam day perspective ...

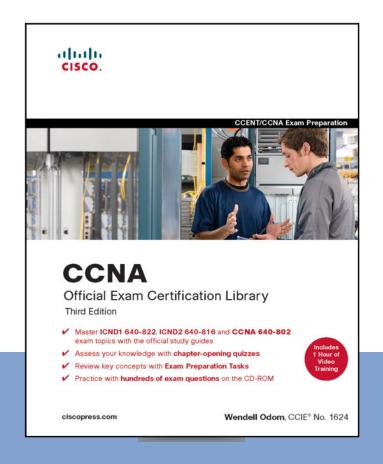
You may see more ICND2 than ICND1, because some ICND2 skills require ICND1 skills plus more

Example: An ICND2-level question using VLSM may also prove ICND1-level subnetting knowledge and ICND2-level subnetting knowledge

Study Resources



CCNA Exam: Recommended Reading



CCNA

Official Exam Certification Library (third edition)

ISBN: 978-1-58720-183-7

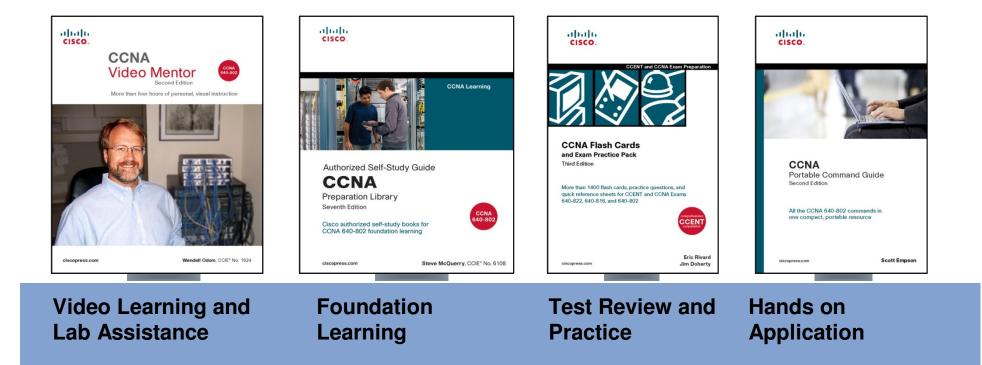
CCNA

Preparation Library (7th edition) Second Edition

ISBN: 978-1-58705-464-8

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CCNA Exam: Recommended Reading



Available http://www.ciscopress.com

31 Days Before Your CCNA Exam

• By Allan Johnson (640-802) ISBN -13: 978-1-58713-197-4 ISBN -10: 1-58713-197-8



Second Edition

Allen Johnson

all tables



A Day By Day Review Guide for the CONA 640 402 Exam

CCNA Exam Checklist

Checklist for Days 31-22

Checkbox	Date	Objective		
		Schedule to take the CCNA Exam at http://www.vue.com.		
		Take at least one practice CCNA exam.		
		Create a diagram of the layered models.		
		Describe the details of sending an email from source to destination.		
		Design, configure, and troubleshoot a basic switched network.		
		Describe how Spanning-Tree Protocol (STP) operates.		
		Design, configure, and troubleshoot a switched network that utilizes VTP, STP, and inter-VLAN routing.		
		Read and review Days 31-22 in this book.		

Checklist for Days 21–11

Checkbox	Date	ective			
		Take at least two practice CCNA exams.			
		Design your own network requirements and then create an addressing scheme using a limited address space and your subnetting skills.			
		Design, configure, and troubleshoot the DHCP service on a Cisco router.			
		Describe the structure and operation of IPv6.			
		Describe the various methods that a router can use to learn about and share knowledge of remote networks.			
		Design, configure, and troubleshoot a three-router network to route successfully with only static and default n			
		Design, configure, and troubleshoot a three-router network with RIPv2, then EIGRP, then OSPF.			
		Read and review Days 21—11 in this book.			

Checklist for Days 10–5

Checkbox	Date	Objective
		Take an additional CCNA practice exam.
		Describe the basics of wireless LAN connectivity.
		Describe basic security threats and the methods used to mitigate them.
		Describe how access control lists work and the various types used by Cisco IOS Software.
		Describe how NAT improves operates.
		Design, configure, and troubleshoot a complex routed network that includes a WLAN, NAT, and ACL security
		Read and review days 10-5 in this book

Checklist for Days 4-1

Checkbox	Date	Objective
		Describe the various WAN technologies currently covered by the CCNA exam.
		Describe how VPNs operate.
		Describe the concepts of PPP.
		Describe the concepts of Frame Relay.
		Configure the Day 1 network without using any references or the answer key.
		Attempt all elements of the CCNA Skills Challenge at the end of Day 1.
		Read and review Days 4–1 in this book.
		Visit the testing center and talk with the proctor at least two days before the exam.
		Eat a decent meal, watch a good movie, and get a good night's rest before the exam.

31 Days Before Your CCNA Exam

CCNA Countdown Calendar

The lines after the countdown number allow you to add the actual calendar days for reference.

31	30	29	28	27	26	25
Network Devices, Components, and Diagrams	Network Models and Applications	Network Data Flow from End-to-End	Connecting Switches and Ethernet Technology	Network Segmentation and Switching Concepts	Basic Switch Configuration and Port Security	Verifying and Troubleshooting Basic Switch Configurations
24	23	22	21	20	19	18
Switching Technologies and VLAN Concepts	VLAN and Trunking Configuration and Troubleshooting	VTP and Inter- VLAN Routing Configuration and Troubleshooting	IPv4 Address Subnetting	Host Addressing, DHCP, and DNS	Basic IPv6 Concepts	Basic Routing Concepts
17	16	15	14	13	12	11
Connecting and Booting Routers	Basic Router Configuration and Verification	Managing Cisco IOS and Configuration Files	Static, Default, and RIP Routing	EIGRP Routing	OSPF Routing	Troubleshooting Routing
10	9	8	7	6	5	4
Wireless Standards, Components, and Security	Configuring and Troubleshooting Wireless Networks	Mitigating Security Threats and Best Practices	ACL Concepts and Configurations	Verifying and Troubleshooting ACL Implementations	NAT Concepts, Configuration, and Troubleshooting	WAN and VPN Technologies
3	2	1	EXAM	DAY		
PPP Configuration and Troubleshooting	Frame Relay Configuration and Troubleshooting	CCNA Skills Review and Practice	Time			

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Exam Question Formats



Multiple Choice, Single Answer

- May test simple recall of pertinent facts
- May require analysis and understanding of complex scenarios
- If you click a 2nd answer, it automatically unchecks the previous answer

Which OSI model layer is concerned with routing?

Layer 1

Layer 3

Layer 5

Layer 7

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Multiple Choice, Multiple Answer

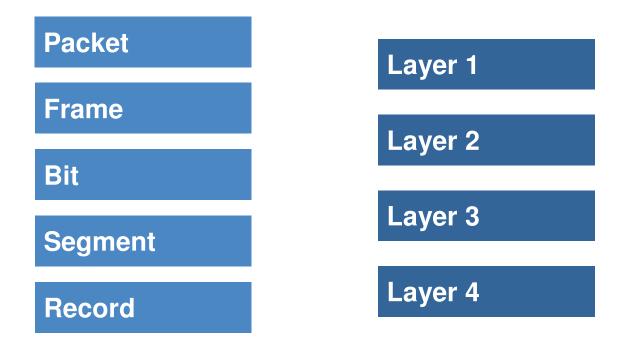
- Question states the number of right answers
- Exam engine reminds about too few, too many answers
- Which cable in the campus LAN should be a crossover cable (Choose 2)?

SW1 - SW2PC1 - SW2 AP1 - SW1 R1 - SW2 PC2 - PC3 Networking Academ

Drag-and-Drop

- List of items to be dragged on the left
- Drag to the boxes on the right

Click and drag the unit of information on the left to the OSI Layer to which it best corresponds on the right. Not all apply.



Testlet

- One general scenario
- Multiple different multiple-choice questions
- Can move around between the questions

An employee who uses a laptop as a workstation at the office is having trouble establishing a connection to the company network. The employee calls the technical support help desk. After a series of questions, the technical support person has the employee ping the gateway address 192.168.0.1. The support person then has the employee ping the loopback address 127.0.0.1. What the	Text of overall scenario
Given the evidence in the scenario, what are the two possible reasons why the laptop can't connect to the network? (Choose two.) The gateway is down. The network cable of the laptop is not plugged into the RJ-45 wall jack.	Text of each question here
The gateway is down. The network cable of the laptop is not plugged into the RJ-45 wall jack. The laptop is missing its NIC. The subnet mask on the gateway is incorrect.	based on which question is

.

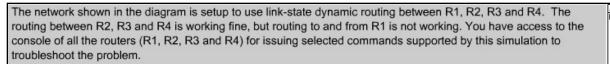
Simulations (Sims)

- Problem Statement, with Goal
- Objective: Complete or Fix the Configuration
- Must Access and Use the CLI
- Click a PC icon to (virtually) Use an Emulator to Connect to Router/Switch
- Sims support:
 - Help (?)
 - Abbreviated commands
 - Tab key to complete commands/keywords

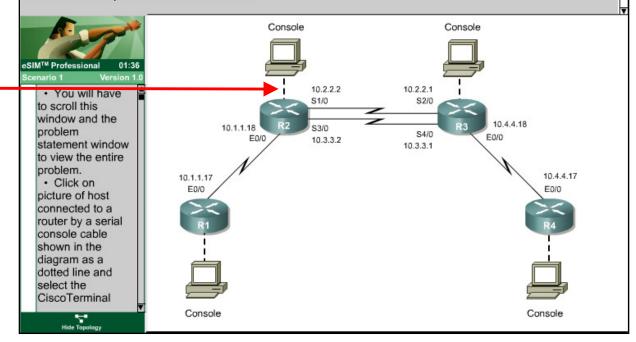
Sim Topology View

Problem Statement

Dashed Line Implies to Click this PC to reach R2's CLI



Once you identify the problem you will need to access the R1 router console to correct the configuration on R1 to resolve the problem. When the routes to 10.3.3.0/30, 10.2.2.0/30, and 10.4.4.16/28 appear in R1's routing table, you will know that the problem has been resolved.



Sim With CLI Visible

The network shown in the diagram is setup to use link-state dynamic routing between R1, R2, R3 and R4. The routing between R2, R3 and R4 is working fine, but routing to and from R1 is not working. You have access to the console of all the routers (R1, R2, R3 and R4) for issuing selected commands supported by this simulation to troubleshoot the problem.

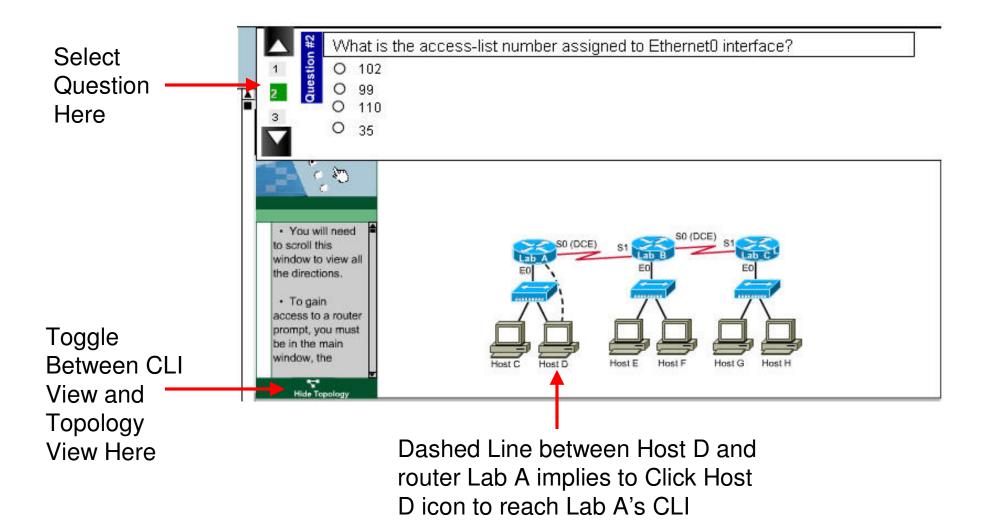
Once you identify the problem you will need to access the R1 router console to correct the configuration on R1 to resolve the problem. When the routes to 10.3.3.0/30, 10.2.2.0/30, and 10.4.4.16/28 appear in R1's routing table, you will know that the problem has been resolved.

		CiscoTerminal		
Toggle Between CLI View and Topology View Here	eSIM [™] Professional 04:25 Scenario 1 Vorsion 1.0 • You will have to scroll this window and the problem statement window to view the entire problem. • Click on picture of host connected to a router by a serial console cable shown in the diagram as a dotted line and select the CiscoTerminal	D - EIGRP, N1 - OSPF E1 - OSPF i - IS-IS, U - per-us Gateway of last r 10.0.0.0/8 i	Set terminal line parameters Trace route to destination Open a tunnel connection Disable debugging functions (see also 'debug') Verify a file List active connections Write running configuration to memory, network, or terminal Become an X.28 PAD Set X.3 parameters on PAD ted, S - static, I - IGRP, R - RIP, M - mobile, B - BGP EX - EIGRP external, O - OSPF, IA - OSPF inter area NSSA external type 1, N2 - OSPF NSSA external type 2 external type 1, E2 - OSPF external type 2, E - EGP L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default er static route, o - ODR esort is not set s subnetted, 1 subnets 27 is directly connected, Ethernet0/0	

Simlet

- Like testlet, with multiple different MC questions
- Like sim, uses simulator
- Objective is to answer MC questions
- Typically, no configuration required

Simlet



Exam Taking Tips



Subtitle

Tips: Multiple Choice Questions

- Look for the "best" answer; some answers may be good, but not "best", so read all the answers
- Look for subtleties, for example:
 - "Packet" implies layer 3, typically IP packet, routing, etc
 - "RIP Version 2" implies classless routing protocol and implies both VLSM support and 2s formula (instead of 2s – 2 formula) for the number of subnets
- If you need to guess:
 - Rule out as many answers as possible
 - Your first impression is usually the better answer to guess
 - There is no penalty for guessing

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Tips: Testlets

- Answer all questions—exam software will remind you before letting you move on
- You can move between questions in a single testlet
 If confused by testlet question 1, look at question 2
 When reading question X, go ahead and click answer(s), even if
 you are unsure, so you'll remember your first impressions
- Same general suggestions as MC questions

Tips: Sims

- Sim questions are always answered by configuring something!
- The Exam Engine grades the running config, not the startup config
- Before exam day ...

Practice as much as you can (real gear, simulators, sample tests, read every configuration in books, repeat labs while in class, etc.)

Use multiple sources for practice/review of configurations

Exam day ...

Do what you can—partial credit!!!

Start with "show running-config"

There are no style points!

Tips: Simlets

- Simlet questions—no need to change the config!
- You may not have visibility to the running config!

Before exam day ...

- Stop and do "show" commands after each step—this emulates the status in Simlet questions
- Use resources that emphasize and explain show command output
- Use multiple sources for guidance in your hands-on practice

Exam day ...

- Guess if you don't know! (no penalty)
- If unsure, click your best guess now, to remember your first impressions
- Read all questions, then use sim (personal preference)

Router Simulation: Legends vs. Truth

- Legend: You lose points if you use help "?" Truth: No penalty!
- Legend: You have to save your configs even if the simulation does not specifically request saving
 Truth: Grading based on running-config
- 3. Legend: You lose points if you enter too many commands

Truth: No penalty!

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Router Simulation: Legends vs. Truth (Cont.)

4. Legend: If you miss one little thing, you get 0 points on that Sim question

Truth: Partial credit is given, so do as much as you can

5. Legend: You will fail the exam if you miss even one simulation question

Truth: You can miss all available points on a sim question and still pass the exam

6. Legend: You should spend most of your time working on the simulations

Truth: Sims do have greater weighting than one MC question, but do not spend most of your time — Recommendation 5 to 8 minutes

Other Legends and Truths

1. Legend: The test is adaptive, e.g., if you miss a RIP question, you'll get more RIP questions

Truth: The tests are not adaptive

2. Legend: My exam covered something not listed in the exam topics

Truth 1: Exam Topics are "guidelines"; the exams may go beyond the exam topics, so you could see such a question

Truth 2: More likely: the question was a sample item for possible future tests, and did not affect your score

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Cisco Avoids These Questions ...

- Those that require the memorization of command syntax or interface/menus
- "Trick questions"
- Version-dependent questions, e.g., configure Cisco IOS vs. Cisco Cat IOS
- Subnetting questions that are ambiguous regarding whether to use the 2^s or 2^s – 2 formula for the number of subnets

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Time Budget



Time and Question Counts on the Exams

- The three exams state the following:
 - ICND1:90 minutes50–60 questionsICND2:75 minutes45–55 questionsCCNA:90 minutes50–60 questions
- You learn your exam's question count as you begin the exam
- Look at the clock as you begin Sim and Simlet questions

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Time Budget: Short Version

- You need a way to answer the question: Am I using too much time per question so far?
- Time consumers: Sim, Simlet, and Testlet questions
- A quick calculation technique:

Question weight:

MCSA, MCMA: 1

Sim, simlet, testlet: 6

Multiply total weight by 1.2

You get the **estimated** total number of minutes, or less, you should have taken so far

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Time Budget Example

- During your CCNA Exam
- After question 10, you want to check the remaining time
- You've had one Sim question, no Simlets/Testlets
- Calculation: 9 + 1x6 = 15 weight points
- 15 weight points = 15x1.2 = 18 minutes
- If actual time \leq 18 minutes, you're doing fine on time

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Question Snapshot

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COO - Itte http://www.cisco.com/utilitation	na n
<u>File Edit View Favorites Tools Help</u>	
🖕 Favorites 🛛 👍 🏉 Suggested Sites 👻 🙆 Get N	lore Add-ons 🝷
ttp://www.cisco.com/comm/applications/PrepCente	🔄 🕆 🗟 🔻 🖻 🖛 🖕 Age 👻 Safety 🕶 Tool
Task 6: Testlet Question This kind of task involves a scenario- based testlet. The testlet consists of the description of the scenario and multiple- choice questions based on information contained in the scenario. The main window is divided into the scenario.	This is a "Testlet" - it contains 4 questions that relate to the scenario below. Seconds Minimum = 0ms, Maximum = 0ms, Average = 0ms The support person tells the employee that the support staff is on the same segment of the network that the employee is on and that the 192.168.0.1 address is reachable from the support office. The support person then suggests to the employee that on the basis of the evidence the inability of the laptop to establish a connection to the network has two possible causes. What was the packet size when the loopback address was pinged? 0 8 16 2 0 32b 64 4
divided into two panes: the upper pane and the lower pane. Both panes have a vertical scroll bar on BACK	Prexxxs(P) Next(N) CONTINUE Copyright 2004 Cisco Systems, Inc. All rights reserved. Cisco, Cisco Systems, the Cisco Systems logo, and Empowering the Internet Generation are registered trademarks or trademarks of Cisco Systems, Inc.

Summary

Prepare!!!

Use Many Resources

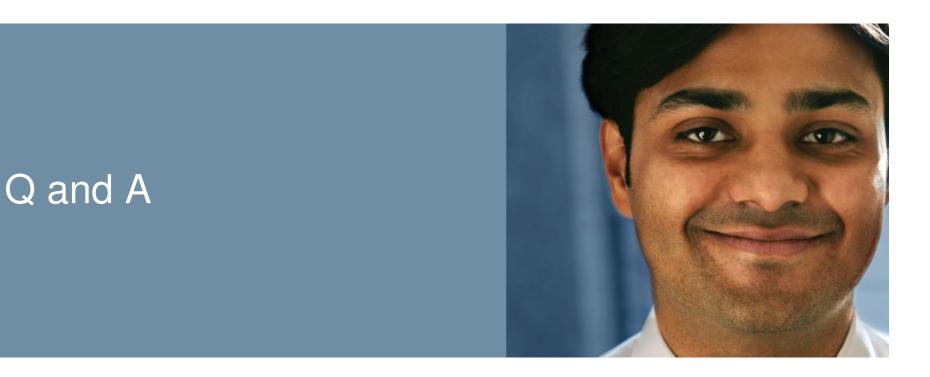
Practice on Routers and Switches, PT, Simulators

Time Budget on Questions—Answer All of Them

Don't Be Intimidated by the Simulations Give Yourself a Time Budget When You Hit a Simulation Shows and Question Marks work Answer as Much as You Can

Golden Rules

- Schedule the exam at your best convenience
- Don't attempt without preparation
- Have a good night sleep before the exam
- Have a light meal, don't go on an empty or full stomach
- Be calm... Don't panic! You're neither the first nor the last
- Focus on questions
- Keep an eye on time, but don't lose focus on questions!
- Don't give up, always finish the exam
- All the best! 🙂



You can find all course materials: http://cisco.webex.com/meet/gbfuster

Password: tutorial

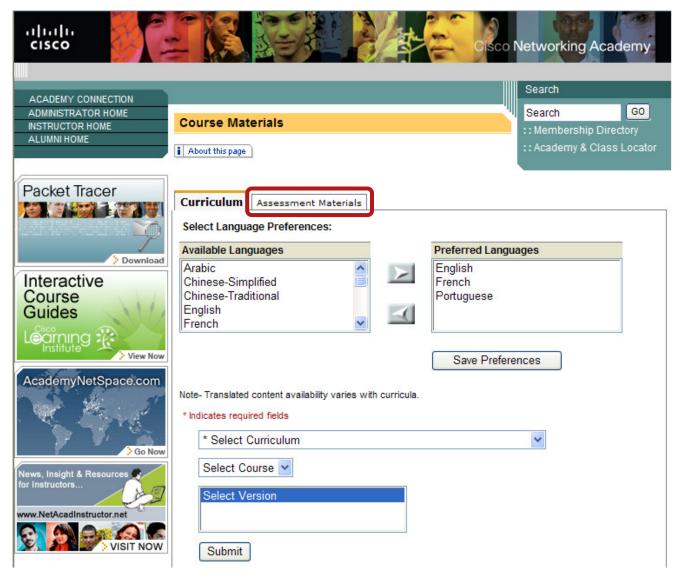
Homework 1: Practice Exam and PT simulations



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		<u>ay</u> (110122003)	Resources
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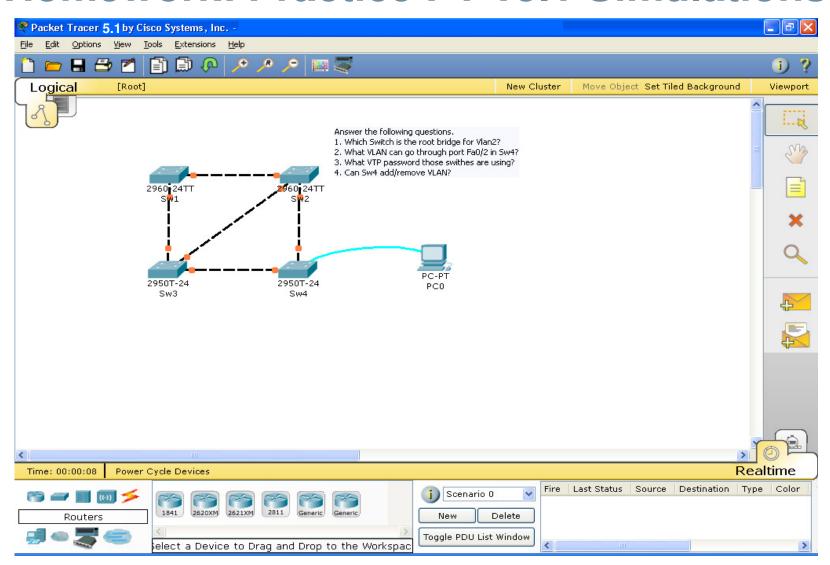
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Packet Tracer	Course name: Accessing the WAN Version: 4.0 CCENT Practice Certification Exam # 1 CCENT Practice Certification Exam # 2				
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	Form Name	View Form	Language	Number of Items	Details
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	▼ CCNA Practice Certification Exam# 2	Required No	Maximum Log 7 days	on Batch Activation	Details
	Form Name	View Form	Language	Number of Items	Details
	English FormA CCNA Prac Cert Exam # 2	View	English	55	P
	EWAN Course Feedback				

Note- Translated content availability varies with curricula.

Homework: Practice PT v5.1 Simulations



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You can find all course materials: http://cisco.webex.com/meet/gbfuster

Password: tutorial

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