

CCNA 7.0

Product Overview





CCNA Version 7.0

- Enhanced Course Design
- Accelerate Path to Job Readiness
- Improved Outcomes
- Lab Equipment

Version 7 Will Be The Best Yet!

Enhanced Course
Design



Accelerated Path
to Job Readiness



Improved Outcomes



CCNA Curriculum

Curriculum Overview

The courses in the CCNA Version 7.0 curriculum help students develop a comprehensive foundation for designing, securing, operating, and troubleshooting modern computer networks, on the scale from small business networks to enterprise networks, with an emphasis on hands-on learning and essential career skills like problem solving and collaboration.

Career Prep

By the end of the CCNA course series, students gain practical, hands-on experience preparing them for the CCNA certification exam and career-ready skills for associate-level roles in the Information & Communication Technologies (ICT) industry.

Learning Components

- Series of 3 courses:
 1. Introduction to Networks (ITN)
 2. Switching, Routing, and Wireless Essentials (SRWE)
 3. Enterprise Networking, Security, and Automation (ENSA)
- Hands-on labs and Cisco Packet Tracer network simulation activities
- Videos, activities, and quizzes reinforce learning
- Exams to measure learning outcomes
- Assessment features to ensure exam security and integrity

Features



Target Audience: Students interested in pursuing an IT-related career

Prerequisites: None. Vocational students often take IT Essentials or equivalent knowledge prior to CCNA

Course Delivery: Instructor-led

Estimated Time to Complete: 200 hours

Recommended Next Course: Network Security, Python, Cybersecurity, CCNP Enterprise Core, DevNet Associate



CCNA: Introduction to Networks

Course Overview

The first course in the CCNA curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the Internet and across modern computer networks - including IP addressing and Ethernet fundamentals.

Benefits

By the end of the course, students can build simple local area networks (LAN) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

Learning Components

- 17 modules
- 24 hands-on labs
- 31 Cisco Packet Tracer activities
- 36 videos
- 10 syntax checkers
- 13 interactive activities
- 64 CYU quizzes
- 17 module exams
- 6 module group exams
- 1 final exam



Features

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering

Prerequisites: None

Instructor Training Required: Yes

Languages: English

Course Delivery: Instructor-led

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Estimated Time to Complete: 70 hours

Recommended Next Course: CCNA: Switching, Routing, and Wireless Essentials

CCNA: Switching, Routing, and Wireless Essentials

Course Overview

The second course in the CCNA curriculum focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLAN) and security concepts.

Benefits

Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN.

Learning Components

- 16 modules
- 14 hands-on labs
- 31 Cisco Packet Tracer activities
- 15 videos
- 19 syntax checkers
- 1 interactive activity
- 36 CYU quizzes
- 16 module exams
- 5 module group exams
- 1 final exam



Features

Target Audience: Secondary vocational students, 2-year and 4-year college students in Networking or Engineering

Prerequisites: None

Instructor Training Required: Yes

Languages: English

Course Delivery: Instructor-led

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Estimated Time to Complete: 70 hours

Recommended Next Course: CCNA: Enterprise Networking, Security, and Automation

CCNA: Enterprise Networking, Security, and Automation

Course Overview

The third CCNA course describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks – including wide area network (WAN) technologies & quality of service (QoS) mechanisms for secure remote access, along with software-defined networking, virtualization, & automation concepts supporting network digitization.

Benefits

Students gain skills to configure and troubleshoot enterprise networks, and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation.

Learning Components

- 14 modules
- 12 hands-on labs
- 29 Cisco Packet Tracer activities
- 32 videos
- 13 syntax checkers
- 2 interactive activities
- 53 CYU quizzes
- 14 module exams
- 5 module group exams
- 1 final exam
- 1 practice exam for CCNA certification exam



Features

Target Audience: 2-year and 4-year college students in Networking or Engineering

Prerequisites: None

Instructor Training Required: Yes

Languages: English

Course Delivery: Instructor-led

Course Recognitions: Certificate of Completion, Letter of Merit, Digital Badge

Estimated Time to Complete: 70 hours

Recommended Next Course: CCNP Enterprise Core

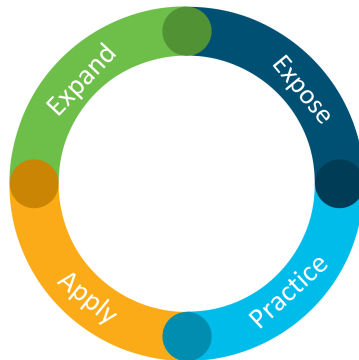


Enhanced Course Design



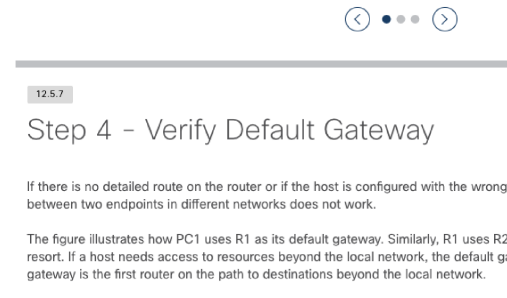
Modular Design

- ✓ Self-contained units
- ✓ Targeted learning of skills



Learning Effectiveness

- ✓ Better student engagement
- ✓ Designed for skills progression



User Experience

- ✓ Improved student view and navigation
- ✓ Easier instructor content management



Enhanced Course Design

Introducing modules for better organization

- ✓ Topics are grouped together
- ✓ Find content more easily

A **module** is an integrated unit of learning that targets a common set of competencies or skills.

Module size depends on the competency and number of topics.

| Introduction to Networks | |
|--|---|
| Chapter 0 Course Introduction | Section 4.0 Introduction |
| Chapter 1 Explore the Network | Section 4.1 Physical Layer Protocols |
| Chapter 2 Configure a Network Operating System | Section 4.2 Network Media |
| Chapter 3 Network Protocols and Communications | Section 4.3 Data Link Layer Protocols |
| Chapter 4 Network Access | Section 4.4 Media Access Control |
| Chapter 5 Ethernet | Section 4.5 Summary |

| CCNA1 Offering | |
|----------------|---|
| 1 | Network Today |
| 2 | Basic Switch and End Device Configuration |
| 3 | Protocols and Models |
| 4 | Physical Layer |
| 5 | Number Systems |
| 6 | Data Link Layer |
| 7 | Ethernet Switching |

Example: CCNA: ITN (Version 6) Chapter 4 is re-organized to CCNA: ITN (Version 7) Modules 4 and 6.



Enhanced Course Design

Accessibility Enhancements



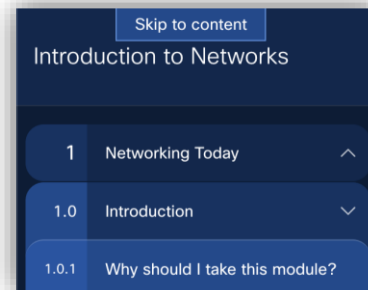
Redesigned User Interface

- ✓ Developed for Web Content Accessibility Guidelines 2.1
- ✓ New sidebar navigation
- ✓ Mobile-friendly
- ✓ Performance enhancements
- ✓ Improved color contrast



Enhancements for Screen Readers

- ✓ Media descriptions and transcripts throughout
- ✓ Descriptions & transcripts tied directly to user interface
- ✓ Conversion to HTML- screen reader can read tables, command windows, Syntax Checkers



Better Keyboard Accessibility

- ✓ 'Skip to Content' sidebar navigation
- ✓ All activities are now keyboard accessible
- ✓ New, accessible header with all user functions



Build Critical Skills for Today - and Tomorrow

Certification Alignment

Associate Level



One Exam

IP Foundation (Core Networking) - 75%

Security - 15%

Network Automation - 10%

- As of Feb 2020, Cisco has a new, consolidated CCNA certification evolved for the New Network
- NetAcad curriculum has evolved to stay aligned
- In CCNA 7.0, students gain critical networking skills, plus foundations for security and automation
- CCNA 7.0 practice exams and activities prepare learners for the new exam



CCNA 7.0 Course Outlines

| Intro to Networks (ITN) |
|---|
| Networking Today |
| Basic Switch and End Device Configuration |
| Protocol Models |
| Physical Layer |
| Number Systems |
| Data Link Layer |
| Ethernet Switching |
| Network Layer |
| Address Resolution |
| Basic Router Configuration |
| IPv4 Addressing |
| IPv6 Addressing |
| ICMP |
| Transport Layer |
| Application Layer |
| Network Security Fundamentals |
| Build a Small Network |

| Switching, Routing, and Wireless Essentials (SRWE) |
|--|
| Basic Device Configuration |
| Switching Concepts |
| VLANs |
| Inter-VLAN Routing |
| STP |
| Etherchannel |
| DHCPv4 |
| SLAAC and DHCPv6 Concepts |
| FHRP Concepts |
| LAN Security Concepts |
| Switch Security Configuration |
| WLAN Concepts |
| WLAN Configuration |
| Routing Concepts |
| IP Static Routing |
| Troubleshoot Static and Default Routes |

| Enterprise Networking, Security and Automation (ENSA) |
|---|
| Single-Area OSPFv2 Concepts |
| Single-Area OSPFv2 Configuration |
| WAN Concepts |
| Network Security Concepts |
| ACL Concepts |
| ACLs for IPv4 Configuration |
| NAT for IPv4 |
| VPN and IPsec Concepts |
| QoS Concepts |
| Network Management |
| Network Design |
| Network Troubleshooting |
| Network Virtualization |
| Network Automation |



Complementary Options

CCNP Enterprise
(ENCOR, ENARSI)

or

CCNA Security / CCNA
CyberOps

or

DevNet Associate

or

Python / ETWs

or lead with

IT Essentials

 New/significantly changed content



Accelerated Path to Job Readiness

Module Objectives

Introduction to Networks (ITN)

| Module | | Module Group Assessments |
|-----------|---|---|
| Module 1 | Networking Today | Basic Network Connectivity and Communications |
| Module 2 | Basic Switch and End Device Configuration | |
| Module 3 | Protocol Models | |
| Module 4 | Physical Layer | Ethernet Concepts |
| Module 5 | Number Systems | |
| Module 6 | Data Link Layer | |
| Module 7 | Ethernet Switching | Communicating Between Networks |
| Module 8 | Network Layer | |
| Module 9 | Address Resolution | |
| Module 10 | Basic Router Configuration | IP Addressing |
| Module 11 | IPv4 Addressing | |
| Module 12 | IPv6 Addressing | |
| Module 13 | ICMP | Network Application Communications |
| Module 14 | Transport Layer | |
| Module 15 | Application Layer | |
| Module 16 | Network Security Fundamentals | Building and Securing a Small Network |
| Module 17 | Build a Small Network | |

NEW!



Accelerated Path to Job Readiness

Module Objectives

Switching,
Routing, and
Wireless
Essentials
(SRWE)

| Module | | Module Group Assessments |
|-----------|--|------------------------------------|
| Module 1 | Basic Device Configuration | Switching Concepts and VLANs |
| Module 2 | Switching Concepts | |
| Module 3 | VLANs | |
| Module 4 | Inter-VLAN Routing | |
| Module 5 | STP | Redundant Networks |
| Module 6 | Etherchannel | |
| Module 7 | DHCPv4 | Available and Reliable Networks |
| Module 8 | SLAAC and DHCPv6 Concepts | |
| Module 9 | FHRP Concepts | |
| Module 10 | LAN Security Concepts | L2 Security and WLANs |
| Module 11 | Switch Security Configuration | |
| Module 12 | WLAN Concepts | |
| Module 13 | WLAN Configuration | |
| Module 14 | Routing Concepts | Routing Concepts and Configuration |
| Module 15 | IP Static Routing | |
| Module 16 | Troubleshoot Static and Default Routes | |



Accelerated Path to Job Readiness

Module Objectives

Enterprise Networking, Security, and Automation (ENSA)

| Module | | Module Group Assessments |
|-----------|----------------------------------|--|
| Module 1 | Single-Area OSPFv2 Concepts | OSPF Concepts and Configuration |
| Module 2 | Single-Area OSPFv2 Configuration | |
| Module 3 | Network Security Concepts | Network Security |
| Module 4 | ACLs Concepts | |
| Module 5 | ACLs for IPv4 Configuration | |
| Module 6 | NAT for IPv4 | |
| Module 7 | WAN Concepts | WAN |
| Module 8 | VPN and IPsec Concepts | |
| Module 9 | QoS Concepts | Optimize, Monitor, and Troubleshoot Networks |
| Module 10 | Network Management | |
| Module 11 | Network Design | |
| Module 12 | Network Troubleshooting | |
| Module 13 | Network Virtualization | Network Virtualization and Automation |
| Module 14 | Network Automation | |



Improved Outcomes

Check Your Understanding

- Complete a topic with self-assessment
- Gives students the opportunity validate and retain critical knowledge
- Use feedback as review

Check Your Understanding – Ports and Addresses

Check Your Understanding – Ports and Addresses

1. What is the structure of an IPv4 address called?

☐ Dotted-binary format
☒ Dotted-decimal format
☐ Dotted-hexadecimal format

2. How is an IPv4 address represented?

☐ Four binary numbers between 0 and 1 separated by colons.
☒ Four decimal numbers between 0 and 255 separated by periods.
☐ Thirty-two hexadecimal numbers separated by colons.
☐ Thirty-two hexadecimal numbers separated by periods.

3. What type of interface has no physical port associated with it?

☐ Console
☐ Ethernet
☒ Serial
☐ Switch virtual interface (SVI)

[Save Configuration](#)

Check Your Understanding – Ports and Addresses

Check Your Understanding – Ports and Addresses

1. What is the structure of an IPv4 address called?

☐ Dotted-binary format
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☐ Dotted-hexadecimal format

2. **▲ How is an IPv4 address represented?**

☐ Four binary numbers between 0 and 1 separated by colons.
☐ Four decimal numbers between 0 and 255 separated by periods.
☐ Thirty-two hexadecimal numbers separated by colons.
☐ Thirty-two hexadecimal numbers separated by periods.

3. **▲ What type of interface has no physical port associated with it?**

☐ Console
☐ Ethernet
☒ Serial
☐ Switch virtual interface (SVI)

[Check](#)
[Show me](#)
[Reset](#)

Correct

You have successfully identified the correct answers.

1. IPv4 addresses are written in dotted-decimal format. For example: 192.168.1.1.

2. IPv4 addresses are written as four groups of decimal numbers separated by periods. For example: 192.168.1.1.

3. Switch virtual interfaces (SVIs), are virtual and have no physical port. Layer 2 switches use SVIs for remote management.

[Configure IP Addressing](#)



Improved Outcomes

Dynamic Forms - Administer unique exams to each of your students

- Exams are dynamically generated from pool of questions, maintaining exam integrity and validity
- Available for Module Group exams and Final course exam
- Form and Section Details indicate total items available and selected from the pool for students.
- Module Group exam items, delivered or not, are available for preview with the assessment viewer

Introduction to Networks (Version 7.00) - Ethernet Concepts Exam

The screenshot displays the 'English FormA Ethernet Concepts Exam' interface. On the left, a sidebar lists exam sections: 'Module 4 - Dynamic' (selected), 'Module 6 - Dynamic', 'Module 7 - Dynamic', 'Ethernet Concepts - Static', 'Module 4 - Template', 'Module 6 - Template', and 'Module 7 - Template'. The main area shows a question prompt: 'Match the situation with the appropriate use of network media.' Below this are six options: 'backbone cabling in an enterprise', 'guest access in a coffee shop', 'horizontal cabling structure', 'meeting rooms in a hospital', 'desktop PCs in an enterprise office', and 'long-haul networks'. Two blue arrows originate from the 'Module 4 - Dynamic' section in the sidebar: one points to the 'Form Details' panel on the right, and the other points to the 'Section Details' panel at the bottom right.

Form Details

English FormA Ethernet Concepts Exam

This is the first release of this form for the CCNA1 - Introduction to Networks v7.0 (ITN) curriculum. This exam will be scored using the Weighted Model where each MCSA (Multiple-Choice Single-Answer) is worth two points and each MCMA (Multiple-Choice Multiple-Answer) is worth one point for each correct option. If more options are selected than required, the student will receive a score of zero.

75 items are available.

34 items are selected and delivered to the learner.

Sections are displayed in random sequence.

Section Details

Module 4 - Dynamic

9 items are available.

6 items are selected and delivered to the learner.

Selected items are grouped together.

Selected items are displayed in random sequence.



Improved Outcomes

Secured Activation increases final exam security

New Assessment Launcher

- Final exams remain secure until administered by instructor
- Replaces the Assessment Viewer
- For security & integrity, questions are not visible

Secured Assessment Launcher

Introduction to Networks v7.0 (Version 7.00) - ITN Final Exam

Create Secured Activation
Create secured activations for the assessment

Manage Activations
Manage the activations for the assessment

Bulk Deactivation
Disregard incomplete attempts and deactivate available activations for the assessment

View All Attempts
View all the attempts for the assessment

Class Performance Summary
View the overall class performance for this assessment

Email Final Exam Scores
Email the student grades for the assessment

Secured Assessment Launcher / Create Secured Activation

Introduction to Networks v7.0 (Version 7.00) - ITN Final Exam

Settings **Students**

Current Time: 11/22/2019 01:40 PM EST

Start Time: 11/22/2019 01 : 40 PM

End Time: 11/22/2019 02 : 40 PM

Maximum Activation Window: 7 days
Activations that exceed the maximum will be converted to the Maximum Activation Window.

Instructor Must Re-enable Incomplete Assessments: ☐
Checking this option means that the instructor must re-enable any exams that students have started but not completed. Option is unchecked for default activation.

Languages
If an assessment has not been translated into the selected language, the English version of that form will be provided.

☒ English

Exam Duration
Duration indicates the amount of time that students are given to take an assessment after the assessment is started. The default duration is listed, however, this may be edited using 15-minute increments within the minimum and maximum duration permitted. If the requested duration is less than the minimum permitted for the exam, it will default to the minimum value. If the requested duration is more than the maximum permitted, it will be set to the default value.

1:15

Assessment Administration
Please let us know how you plan to administer this assessment. This information will be used for reporting and assessment development only. Please select one of the following options:

☐ This assessment will be administered in a secure, proctored environment with no teamwork or access to learning materials permitted.

☐ This assessment will be administered in a less secure environment and teamwork or access to learning materials will be permitted.

☐ Unsure at this time.

Create Secured Activation



Improved Outcomes

Secured Activation provides useful insights on class performance

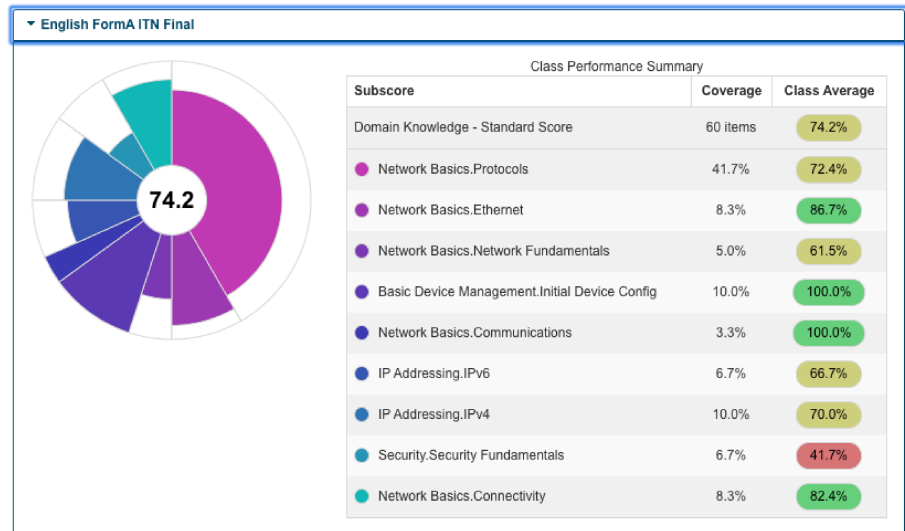
Domain Level Reporting

- New Class Performance Summary report for instructors
- Replaces the Student Performance Summary
- See how your students are performing in each domain based on objectives of the modules and course

ITNv7 Final Exam

Secured Assessment Launcher / Class Performance Summary

Introduction to Networks (Version 7.00) - ITNv7 Final Exam





Improved Outcomes

Formative and Summative Assessments guide learning at strategic points

Self-Assessments

Check Your Understanding

- ✓ Multiple per module
- ✓ Correct/incorrect scoring and 'show me' option

Module Quizzes

- ✓ 1 per module
- ✓ Correct/incorrect scoring and 'show me' option

12.8.2

Module Quiz – WLAN Concepts

1. In the context of mobile devices, what does the term tethering involve?

- ☐ connecting a mobile device to another mobile device or computer to share a network connection
- ☐ connecting a mobile device to a hands-free headset
- ☐ connecting a mobile device to a 4G cellular network
- ☐ connecting a mobile device to a USB port on a computer in order to charge the mobile device

Launched by Instructor

Module Group Exams

- ✓ Multiple per course

Certification Practice Exams

- ✓ 1 for ENSA course

Final Exams

- ✓ 1 per course

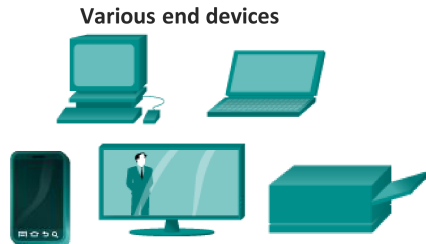
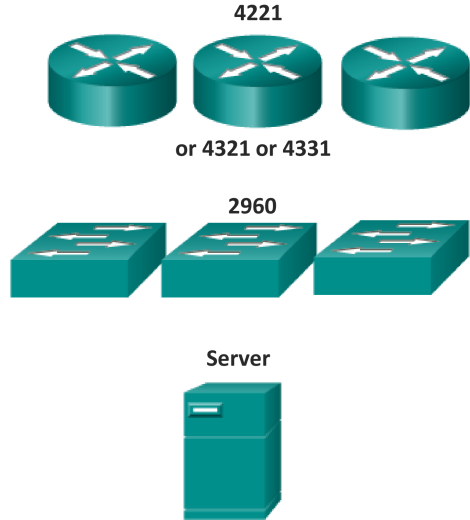
| Module | | Module Group Topics |
|-----------|----------------------------------|--|
| Module 1 | Single-Area OSPFv2 Concepts | OSPF Concepts and Configuration |
| Module 2 | Single-Area OSPFv2 Configuration | |
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Lab Equipment



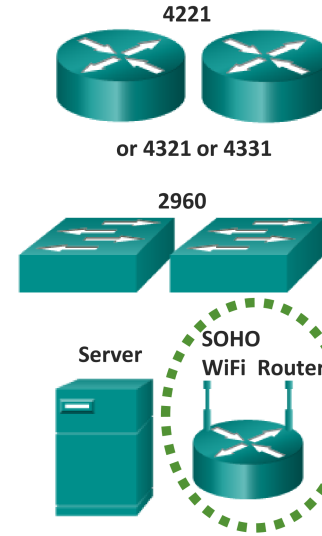


CCNA 6.0 vs 7.0 – Lab Equipment

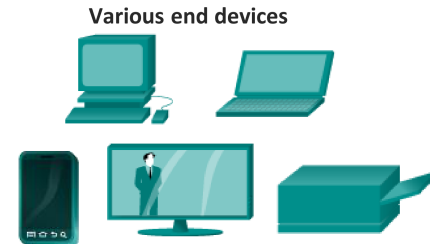


For CCNA 7.0:

- Serial ports not required
- Packet Tracer 7.3.0 or higher required



PT used for 3-router/switch topologies





SOHO Wi-Fi Router is Back in CCNA 7.0



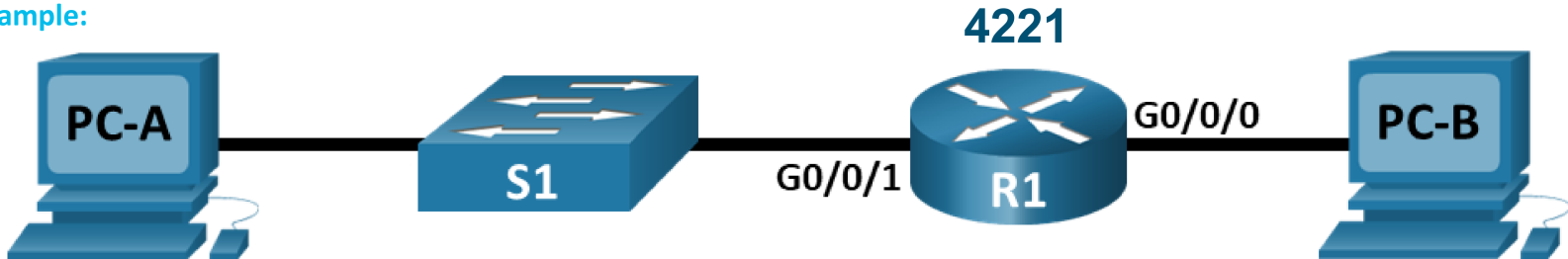
- 1 wireless router (generic brand) with WPA2 support
- Configure a Home Network with Wireless
- Configure WLAN with WPA2 Encryption
- GUI



Can I Teach CCNA v7 with 1941/2901 Routers?

- Yes, you can use the 1941/2901 Routers, but please note:
 - CCNA 7.0 Hands-on labs and Skills Assessments (SA) were written using the Cisco 4221 routers
 - Some modifications for router interface names will be required
 - Most CCNA 7.0 commands should work, but full regression testing for the 1941 and 2901 was not done

Example:



1941/2901 – Interface names G0/0 & G0/1

