

# CCNA: Switching, Routing, and Wireless Essentials

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## Course Overview

CCNAv7: Switching, Routing, and Wireless Essentials (SRWE) covers the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure and troubleshoot routers and switches for advanced functionality using security best practices and resolve common issues with protocols in both IPv4 and IPv6 networks.

By the end of the course, students will be able to:

- Configure VLANs and Inter-VLAN routing applying security best practices.
- Troubleshoot inter-VLAN routing on Layer 3 devices.
- Configure redundancy on a switched network using STP and EtherChannel.
- Troubleshoot EtherChannel on switched networks.
- Explain how to support available and reliable networks using dynamic addressing and first-hop redundancy protocols.
- Configure dynamic address allocation in IPv6 networks.
- Configure WLANs using a WLC and L2 security best practices.
- Configure switch security to mitigate LAN attacks.
- Configure IPv4 and IPv6 static routing on routers.

The 70-hour, instructor-led course is the 2nd of 3 courses in the Cisco CCNAv7 curriculum. The course includes activities using Packet Tracer, hands-on lab work, and a wide array of assessment types and tools.

## 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

[Release Notes](#)

[Scope & Sequence](#)