

Cisco 500-901 2026 Exam Prep

Cisco 500-901 2026 exam prep. Master key concepts with real-world scenarios and hands-on exercises.

[IT Certifications](#) Instructor: Jason Miller • 5 sections • 42 lessons • 14.25h total

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About this course

Preparing for the Cisco 500-901 2026 exam can feel overwhelming with all the topics to cover. This course breaks it down into manageable, practical lessons that focus on the exam objectives. We will walk through core concepts, troubleshoot common issues, and apply strategies that mirror real IT environments.

You will learn how to configure and manage Cisco solutions, analyze case studies from actual deployments, and test your knowledge with practical exercises. The course includes video walkthroughs, downloadable checklists, and problem-solving sessions.

Course curriculum

Foundations and Preparation

- **Understanding the 500-901 Exam Structure (12m)**
Get a clear overview of the exam format, question types, and key domains to focus your study time effectively.
- **Setting Up Your Cisco Lab Environment (18m)**
Step-by-step guide to creating a virtual lab using Packet Tracer or EVE-NG for hands-on practice.
- **Essential Networking Concepts Refresher (15m)**
Review core protocols like TCP/IP, subnetting, and VLANs to build a strong base for advanced topics.
- **Cisco IOS Basics and Command-Line Navigation (22m)**
Learn how to navigate Cisco IOS efficiently, with practical commands to speed up your workflow.
- **Creating a Personalized Study Plan (8m)**
Downloadable template to organize your schedule, track progress, and balance study with work commitments.
- **Common Pitfalls to Avoid in Exam Prep (10m)**
Real-world advice on time management and focus, drawn from past candidates' experiences.
- **Gathering Resources and Practice Tests (14m)**
Where to find reliable practice questions and how to use them without memorizing answers.

Core Network Configuration

- **Configuring Basic Router and Switch Settings (20m)**
Hands-on walkthrough of initial device setup, including IP addressing and interface configuration.
- **Implementing VLANs and Trunking (25m)**
Real case study on segmenting networks with VLANs and configuring trunk ports for scalability.
- **Setting Up Static and Dynamic Routing (28m)**
Compare static routes with OSPF, including step-by-step configuration and verification commands.
- **Access Control Lists (ACLs) for Security (16m)**
How to create and apply ACLs to filter traffic, with examples from enterprise environments.
- **NAT and PAT Configuration for IPv4 (23m)**
Problem-solving session on translating private IPs to public, including overload scenarios.
- **DHCP Server Setup on Cisco Devices (19m)**
Configure dynamic IP allocation, exclude ranges, and troubleshoot common client issues.
- **IPv6 Addressing Fundamentals (17m)**
Step-by-step guide to IPv6 configuration, focusing on EUI-64 and stateless autoconfiguration.
- **Spanning Tree Protocol (STP) Essentials (21m)**
Understand STP roles and root bridge election with real-world loop prevention examples.
- **Link Aggregation with EtherChannel (14m)**
Bundle interfaces for bandwidth and redundancy, including LACP and PAgP modes.

Advanced Routing and Switching

- **EIGRP Configuration and Optimization (26m)**
Deep dive into EIGRP metrics, variance, and unequal cost load balancing with lab scenarios.
- **OSPF Area Types and LSAs (30m)**
Analyze OSPF areas, route summarization, and LSA types in multi-area designs.
- **BGP Fundamentals for Enterprise Networks (24m)**
Introduction to BGP peering, AS numbers, and path selection in real ISP connections.
- **Route Redistribution and Filtering (22m)**
Step-by-step on redistributing routes between protocols and using distribute-lists.
- **HSRP and VRRP for Gateway Redundancy (18m)**
Configure hot standby protocols with failover testing in a simulated network.
- **QoS Basics for Traffic Management (27m)**
Prioritize voice and video traffic using classification, marking, and queuing techniques.
- **Multicast Routing with IGMP and PIM (20m)**
Setup multicast groups and sparse mode routing for efficient bandwidth use.

Security and VPNs

- **Implementing IPsec VPN Tunnels (29m)**
Full configuration of site-to-site VPNs, including IKE policies and transform sets.
- **SSL VPN for Remote Access (25m)**
Set up AnyConnect SSL VPN with clientless and full tunnel modes for remote users.
- **Firewall Basics with Zone-Based Policy (23m)**
Define zones, inspect traffic, and apply policies to protect internal networks.
- **802.1X Port-Based Authentication (19m)**
Secure switch ports with RADIUS integration, including troubleshooting failed authentications.
- **Wireless Security with WPA3 and RADIUS (21m)**
Configure secure Wi-Fi networks, focusing on enterprise authentication methods.
- **Device Hardening Best Practices (16m)**
Disable unused services, enable passwords, and audit configurations with downloadable checklist.
- **Monitoring for Security Threats (15m)**
Use Syslog and SNMP to detect anomalies, with real alert examples from breaches.
- **AAA with TACACS+ and RADIUS (24m)**
Centralize authentication, authorization, and accounting for network devices.
- **IPv6 Security Considerations (18m)**
RA Guard and ND inspection to prevent IPv6-specific attacks in modern networks.

Troubleshooting and Implementation

- **Systematic Troubleshooting Methodology (22m)**
Layer-by-layer approach (OSI model) with real case studies from failed deployments.
- **Diagnosing Routing Issues (27m)**
Use show commands and debugs to pinpoint OSPF/EIGRP convergence problems.

- **Switching Troubleshooting: STP and MAC Tables (25m)**
Identify loops, port states, and CAM table issues with step-by-step verification.
- **VPN Connectivity Problems (20m)**
Common IPsec/SSL VPN errors, IKE mismatches, and NAT traversal fixes.
- **Wireless Troubleshooting: Signal and Interference (24m)**
Use Wi-Fi analyzers to resolve channel overlap and client association issues.
- **Performance Bottlenecks and QoS Tweaks (26m)**
Identify congestion points and apply shaping/policing in lab scenarios.
- **IPv6 Migration Challenges (19m)**
Dual-stack and tunneling issues, with practical workarounds for legacy systems.
- **Configuration Backup and Recovery (12m)**
Use TFTP/SCP for backups and recover from device failures with real examples.
- **Final Exam Simulation and Review (32m)**
Timed practice exam with debrief, focusing on weak areas and time-saving tips.
- **Next Steps: Certification Renewal and Career Paths (10m)**
Guidance on CE credits, advanced Cisco certs, and applying skills in your job.

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