

Cisco CCNA 2 Certification Training

ALL-IN-ONE: EXAM INCLUDED IN PRICE

5 days (35 hours)

Overview

Cisco CCNA 2 Certification consolidates your skills in routing, switching, IP services, security and automation in preparation for the official CCNA exam (200-301). This intensive course consolidates your basic knowledge of computer networks and Cisco technologies.

You'll learn how to design an addressing plan, configure VLANs and routing (static and OSPF), deploy essential IP services (DHCP, NAT/PAT, DNS/NTP), secure access to equipment (SSH, ACLs) and troubleshoot network infrastructures efficiently.

At the end of the course, you'll be able to design, administer and secure a complete Cisco network, and have the practical skills needed to pass the CCNA certification with confidence.

Like all our training courses, this one is based on the latest stable version of the [Cisco CCNA](#) program (200-301), and takes a resolutely practical and operational approach.

Objectives

- Configure a Cisco corporate network.
- Implement reliable IP services and secure access.
- Monitor and troubleshoot with show/debug commands, syslog logs and step-by-step methods.
- Prepare effectively for the CCNA exam (200-301).

Target audience

- Network engineers
- System administrators.
- Professionals preparing for CCNA certification.

Prerequisites

- Notions of IP networks.
- Familiarity with Cisco equipment and CLI (IOS) recommended.

Cisco CCNA 2 Certification Training

[Day 1 - Morning]

Network architecture and Cisco equipment

- Roles of routers, switches, access points and firewalls
- Topologies : LAN, WAN, star, mesh, hybrid
- OSI / TCP/IP reminders and encapsulation logic
- Connections: copper, fiber, wifi; interfaces and data rates
- Good inventory and labeling practices
- Workshop: Cabling and basic access to a Cisco switch/router.

[Day 1 - Afternoon]

IP addressing and subnetting

- IPv4 and IPv6 address structure
- Calculation of subnets, masks and gateways
- Addressing scheme: user/server/equipment ranges
- Common errors and verification methods
- Tests: ping and end-to-end traceroute
- Practical workshop: Creating an IP plan + configuring interfaces.

Switching and VLANs

- Role of the switch in the LAN
- Creating and assigning VLANs
- 802.1Q trunks and verification
- Introduction to Spanning Tree (RSTP / PVST+)
- Controls: show vlan, show interface trunk
- Practical workshop: Multi-VLAN configuration and trunk links.

[Day 2 - Morning]

Static routing

- Concepts: routing table, AD, longest prefix match
- Default and backup routes
- IPv4/IPv6 static routing: essential commands
- Checks: show ip route, show ipv6 route
- Troubleshooting: interface and mask errors
- Workshop: Interconnecting 2 networks with static routes.

[Day 2 - Afternoon]

Dynamic routing with OSPF

- OSPF principles: neighborhood, DR/BDR, costs
- Basic configuration on multiple routers
- Neighborhood states and LSA synchronization
- OSPF table reading and verification
- Best practices for area numbering
- Workshop: Setting up an OSPF neighborhood and verifying routes.

IP services and NAT

- DHCP: server/relay, leases, reservations
- DNS/NTP: name resolution and reliable clocking
- Address translation: static/dynamic NAT, PAT
- Processing order and security impact
- Service testing and validation
- Practical workshop: DHCP relay + NAT/PAT on a Cisco router.

[Day 3 - Morning]

Securing access to equipment

- Console, VTY and SSH access
- Password and encryption policies
- Disabling unused services
- Legal banners and connection logs
- Configuration backup/restore
- Practical workshop: Securing access to a switch/router.

[Day 3 - Afternoon]

ACLs - access control lists

- IPv4/IPv6 ACL types: standard vs. extended
- Placement and evaluation order
- Step-by-step writing and testing
- Classic errors to avoid
- Traceability: counters and logs
- Practical workshop: Filtering a specific flow with ACL.

Supervision and troubleshooting

- Key commands: show, debug, ping, traceroute
- Reading syslog and exporting to a collector
- Interpreting interface and protocol errors
- Step-by-step diagnostic method
- Verification checklists
- Practical workshop: Troubleshooting on a simulated lab.

[Day 4 - Morning] Network

automation

- When to automate: benefits and limitations
- Python/Ansible basics for Cisco IOS XE
- Overview of common APIs and objects
- Best practices (idempotency, testing)
- Traceability of changes
- Practical workshop: Pushing a simple config via Ansible.

[Day 4 - Afternoon]

Virtualization and

segmentation

- Logical segmentation: VRF and access policies
- VLAN isolation and inter-VLAN routing
- SDN / Cisco DNA concepts
- Impact on troubleshooting and observability
- Multi-client/service use cases
- Practical workshop: Create 2 VRFs and check isolation.

High availability

- Objectives: continuity, network RTO/RPO
- Redundant gateways: HSRP / VRRP
- Link monitoring and priorities
- Failover tests and validation
- Feedback: common pitfalls
- Practical workshop: HSRP configuration + failover test.

[Day 5 - Morning]

Knowledge synthesis

- Review of fundamentals: VLANs, routing, ACL, NAT
- Complete IP plan and traffic paths
- Security and supervision points of attention
- Guided questions and answers
- Catching up on weak areas
- Practical workshop: Timed technical quiz.

[Day 5 - Afternoon]

Enterprise network case study

- Building a multi-VLAN LAN with inter-VLAN routing
- Integrate DHCP, NAT/PAT and ACLs
- Validate connectivity and restrictions
- Trace and document flows
- Evaluate performance
- Practical workshop: Deploy and validate target architecture.

Preparation for CCNA certification (200-301)

- Exam format, subject areas and key weightings
- Method: time management, common pitfalls, priorities
- Sample exercises: subnetting, routing, ACL, NAT
- Final revision tips and D-day (Pearson VUE)
- Detailed correction of recurring errors
- Practical workshop: mock exam + correction.

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire enabling us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the forthcoming course, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be

and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Certification

A certificate will be awarded to each trainee who has completed the entire course.