

# CCNA

## Implementing and Administering Cisco Solutions

The course provides you with a broad spectrum of basic knowledge for all IT professions. Through a combination of lecture, practical exercises and self-study, you will learn how to install, operate, configure and verify basic IPv4 and IPv6 networks. The course covers the configuration of network components such as switches, routers and wireless LAN controllers, the basics of network management and how to recognize basic security threats. This course also covers the introduction of AI and Machine Learning (ML) in networking.

This course will help you prepare for the Cisco® Certified Network Associate (CCNA®) exam. Passing this one exam will earn you the CCNA certification.

### Course Contents

- Identify the components of a computer network and describe their basic characteristics
- Understand the model of host-to-host communication
- Describe the features and functions of the Cisco IOS Software
- Describe LANs and the role of switches within LANs
- Describe Ethernet as the network access layer of transmission control protocol and the internet protocol (TCP/IP) and describe the operation of switches
- Install a switch and perform the initial configuration
- Describe the TCP/IP internet layer, IPv4, its addressing scheme, and subnetting
- Describe the TCP/IP transport layer and application layer
- Explore the functions of routing
- Implement basic configuration on a Cisco router
- Explain host-to-host communications across switches and routers
- Identify and resolve common switched network issues and common problems associated with IPv4 addressing
- Describe IPv6 main features, addresses and configure and verify basic IPv6 connectivity
- Describe the operation, benefits, and limitations of static routing
- Describe, implement and verify virtual local area networks (VLANs) and trunks
- Describe the application and configuration of inter-VLAN routing
- Explain the basics of dynamic routing protocols and describe components and terms of open shortest path first (OSPF)
- Explain how spanning tree protocol (STP) and rapid spanning tree protocol (RSTP) work
- Configure link aggregation using EtherChannel
- Describe the purpose of Layer 3 redundancy protocols
- Describe basic wide-area network (WAN) and virtual private network (VPN) concepts
- Describe the operation of access control lists (ACLs) and their applications in the network
- Configure internet access using dynamic host configuration protocol (DHCP) clients and explain and configure network address translation (NAT) on Cisco routers
- Describe the basic quality of service (QoS) concepts
- Describe the concepts of wireless networks, which types of wireless networks can be built and how to use WLC
- Describe network and device architectures and introduce virtualization
- Explain software-defined networks
- Configure basic Cisco IOS system monitoring tools
- Describe the management of Cisco devices
- Describe the current security threat landscape
- Describe threat defense technologies
- Implement a basic security configuration of the device management plane
- Implement basic steps to harden network devices
- Discuss the need of network programmability in Enterprise networks, common programmability protocols, and configuration management tools
- Describe AI and ML in network operations

**E-Book** You will receive the original course documentation from Cisco in English language as a Cisco E-Book. In the Cisco Digital Learning Version, the content of the courseware is integrated into the learning interface instead.

### Target Group

This course is designed for anyone seeking CCNA certification. The course also provides foundational knowledge for all support technicians involved in the basic installation, operation and monitoring of Cisco networks.

The job roles that best fit the material used in this course are:

- Entry-level Network Engineers
- Entry-level Network Administrators
- Entry-level Network Support Technicians
- Entry-level Help Desk Technicians

### Prerequisites

- Basic computer skills
- Basic knowledge of the PC operating system
- Basic knowledge of internet usage
- Basic IP address knowledge

There are no formal prerequisites for CCNA certification, but you should make sure you have a good understanding of the exam topics.

**Processing time**  
approx. 30 hours

### This Course in the Web



You can find the up-to-date information and options for ordering under the following link:

[www.expertech-training.com/go/CCNN](http://www.expertech-training.com/go/CCNN)

### Reservation

On our Website, you can reserve a course seat for 7 days free of charge and in a non-committal manner. This can also be done by phone under +49 6074/4868-0.

### Guaranteed Course Dates

To ensure reliable planning, we are continuously offering a wide range of guaranteed course dates.

### Your Tailor-Made Course!

We can precisely customize this course to your project and the corresponding requirements.

Cisco Digital Learning	Prices, excl. of V.A.T.
Activation for 6 months	€ 800

Training	Prices, excl. of V.A.T.
<b>Classes in Germany</b>	<b>5 Days € 3,195</b>
<b>Classes in Austria</b>	<b>5 Days € 3,195</b>
<b>Classes in Switzerland</b>	<b>5 Days € 3,990</b>
<b>Online Training</b>	<b>5 Days € 3,195</b>
<b>Date/course venue</b>	<b>Course language German</b>
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05/05-09/05/25  Online	15/09-19/09/25  Frankfurt
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Status 04/30/2025



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