

# Network Configuration And Troubleshooting

Course: 00025

Filter: **Beginner**

Duration: **3 days**

Category: **Networking**

Price: **2800,00 €**

## About Course

The ability to provide users with constant access to critical data is essential for the success of today's rapidly evolving networks. In this training course, you gain a comprehensive set of tools and techniques needed to proficiently configure and maintain networks, as well as identify and resolve problems related to cables, wireless connections, protocols, and applications.

## What you'll learn

- Configure, maintain, and troubleshoot multiple network configurations
- Implement VLANs in a switched network
- Access and secure your wireless network
- Manage IP address assignments and subnetting

## Pre-requisites

- Networking experience at the level of Introduction to Networking

## Curriculum

### Module 1: Networking Overview

- Types of networks

- Hardware and software
- Executing a troubleshooting methodology
- Employing fault isolation at each layer

## **Module 2: Connecting the Physical Layer**

- Twisted pair
- Fiber
- Wireless
- EIA/TIA standards
- Strategies for successful configuration
- Validating wiremap with cable scanner
- MDI/MDI-X port configuration
- Specifying various fiber types

## **Module 3: Building the Data Link Layer**

- Designating Layer 2 MAC address
- Demystifying access methods
- Displaying NIC configuration
- Logical and physical topologies
- Star
- Hybrid
- Mesh
- 802 standards
- Wireless
- Fast and Gigabit Ethernet
- xDSL
- Cable modem
- Frame Relay
- ATM
- Testing speed and duplex settings
- Authenticating using 802.1X and EAP

## **Module 4: Switching at the Data Link Layer**

- Differentiating Ethernet and 802.3 frame formats
- Capturing and filtering traffic with Wireshark
- Deploying switches
- Interpreting Layer 2 traffic
- Defining the VLAN
- Port tagging with 802.1Q
- Interconnecting VLANs across switches

### **Module 5: Wireless Networking**

- Network types and standards
- Selecting infrastructure or ad hoc mode
- IBSS
- BSS
- ESS
- Setting up the access point
- Configuring the SSID on a client
- Securing the wireless traffic

### **Module 6: Integrating the Network and Transport Layers**

- TCP/IP protocol suite
- OSI model vs. TCP/IP model
- Public vs. private addresses
- Allocating addresses with DHCP
- Managing addresses with ifconfig/ipconfig
- Resolving address conflicts
- Subnetting and the adjacency test
- Interpreting a routing table
- TCP
- UDP
- IP
- ARP
- ICMP
- Identifying common protocol issues

## Module 7: Troubleshooting the Application Layer

- File
- Print
- Messaging
- Database
- DNS
- Web services
- Debugging name resolution with nslookup