

TCP/IP in Local Area Networks (LAN) («TCL»)

This course provides in-depth knowledge of LAN, Ethernet and TCP/IP. This very practice-orientated course focuses on many exercises with sample hardware provided for setting up a LAN with Ethernet and TCP/IP.

Duration: 2 days

Price: 1'400.–

Course documents: Digicomp Course Material

Content

Hardly any local area network (LAN) today can do without Ethernet. Similarly, TCP/IP has long been the de facto protocol standard for computer networks and the basis of the Internet. Sound knowledge in these areas is a basic requirement in IT today.

This course provides basic knowledge in these two important areas. The TCP/IP part corresponds to the course [TCP/IP Basics \(TCN\)](#).

The following topics are covered:

- Concepts and architecture of computer networks
- Cable systems
- Ethernet switches, operation and configuration
- VLANs: concept and configurations
- Linking several switches
- Solving typical problems with appropriate tools
- Layer architecture of the TCP/IP stack
- Analysing and understanding TCP/IP installations with graphical and command line tools
- Ethernet and other protocols: ARP, IP, DHCP
- TCP and UDP
- Routing
- Name resolution with DNS
- Configuring and troubleshooting TCP/IP networks

Numerous sample hardware is available for the numerous exercises. In addition, each participant has their own virtual training environment with several VMs in our data centre. Cisco switches, Windows 10, Windows Server 2019, Wireshark for analysing network traffic and numerous other built-in tools and tools available on the Internet are used.

Key Learnings

- Understanding the concepts & architecture of computer networks with Ethernet and TCP/IP
- Knowing Ethernet switches and cabling and understanding VLANs, using real equipment
- Knowing and understanding how TCP/IP networks work, based on real networks
- Independently configuring and troubleshooting Ethernet and TCP/IP networks

Methodology & didactics

This course is explicitly practice-orientated. Concepts and theory are derived from practical exercises.

Target audience

This course is aimed at IT system administrators and IT support staff from all sectors.

Requirements

Knowledge and practised use of modern operating systems, in particular Microsoft Windows, are required.

- [Basics of data communication \(«DAC»\)](#)

Further courses

- [TCP/IP Advanced \(«TCA»\)](#)
- [IPv6 Hands-on \(«IPH»\)](#)
- [SDN Fundamentals \(«SNDf1»\)](#)

Any questions?

We are happy to advise you on +41 44 447 21 21 or info@digicomp.ch. You can find detailed information about dates on www.digicomp.ch/courses-it-provider/network-telecom/course-tcpip-in-local-area-networks-lan