

CCNA v7 – Introduction to Networks (ITN)



Course description:

The CCNA v7 Introduction to Networks (ITN) – The first course in the CCNA (Cisco Certified Network Associate) curriculum introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the internet and across modern computer networks - including IP addressing and Ethernet fundamentals. By the end of the course, students can build simple local area networks (LANs) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

Training subjects:

- Networking Today;
- Basic Switch and End Device Configuration;
- Protocol Models;
- Physical Layer;
- Number Systems;
- Data Link Layer;
- Ethernet Switching;
- Network Layer;

- Address Resolution;
- Basic Router Configuration;
- IPv4 Addressing;
- IPv6 Addressing;
- ICMP;
- Transport Layer;
- Application Layer;
- Network Security Fundamentals;
- Build a Small Network.

Acquired skills:

- Explain the advances in modern network technologies.
- Implement initial settings including passwords, IP addressing, and default gateway parameters on a network switch and end devices.
- Explain how network protocols enable devices to access local and remote network resources.
- Explain how physical layer protocols, services, and network media support communications across data networks.
- Calculate numbers between decimal, binary, and hexadecimal systems.
- Explain how media access control in the data link layer supports communication across networks.
- Explain how Ethernet operates in a switched network.
- Explain how routers use network layer protocols and services to enable end-to-end connectivity.
- Explain how ARP and ND enable communication on a local area network.
- Implement initial settings on a router and end devices.
- Calculate an IPv4 subnetting scheme to efficiently segment your network

- Calculate an IPv6 subnetting scheme to efficiently segment your network.
- Explain how ICMP manages messaging between devices.
- Compare the operations of transport layer protocols in supporting end-to-end communication.
- Explain the operation of application layer protocols in providing support to end-user applications.
- Configure switches and routers with device hardening features to enhance security.
- Implement a network design for a small network to include a router, a switch, and end devices.

Minimal requirements:

- Completion of the specialist course CCNA Academy modules I to IV.

Time: 40h

Data: To be defined

Location: Cyber Security Training Centre of Excellence, Warsaw.