



NETWORK+ CERTIFICATION

The CompTIA Network+ certification is internationally recognized and validates the technical knowledge required of foundation-level IT network professionals.

During this course students will gain a solid foundation of networking concepts upon which more advanced topics and technologies can be built. Students will be discussed and implement core networking skills, combining the theory with practical exercises.

Students who pass these exams will have higher opportunities to become network administrator, network technician, network installer, help desk technician and IT cable installer.

This course ensures that the candidate learns important knowledge and the skills necessary to manage, maintain, troubleshoot, install, operate and configure basic network infrastructure, describe networking technologies, basic design principles, and adhere to wiring standards and use testing tools.

To become Network+ certified students need to pass two exams. This course will cover all exams topics, including network technologies, installation and configuration, media and topologies, management, and security.

COURSE OUTLINE:

Network Technologies

- Function of common networking protocols
- Identify commonly used TCP and UDP default ports
- Identify the following address formats
- The proper use of the following addressing technologies and addressing schemes
- Identify common IPv4 and IPv6 routing protocols
- The purpose and properties of routing
- The characteristics of wireless communication standards

Network Media and Topologies

- Standard cable types and their properties
- Identify common connector types
- Identify common physical network topologies
- Appropriate wiring standards



- WAN technology types and properties
- LAN technology types and properties
- Common logical network topologies and their characteristics
- Install components of wiring distribution

Network Devices

- Install, configure and differences between common network devices
- Identify the functions of specialized network devices
- Advanced features of a switch
- Implement a basic wireless network

Network Management

- The function of each layer of the OSI model
- Types of configuration management documentation
- The network based on configuration management documentation
- Identify performance and connectivity issues
- Different methods and rationales for network performance optimization
- Network troubleshooting methodology
- Troubleshoot common connectivity issues and select an appropriate solution

Network Tools

- The purpose of network scanners
- Hardware tools

Network Security

- The function of hardware and software security devices
- Common features of a firewall
- The methods of network access security
- Methods of user authentication
- Issues that affect device security
- Identify common security threats and mitigation techniques

Networking Concepts

- The layers of the OSI and TCP/IP models
- Classify how applications, devices, and protocols relate to the OSI model layers.
- The purpose and properties of IP addressing
- The purpose and properties of routing and switching



- Identify common TCP and UDP default ports
- Function of common networking protocols
- DNS concepts and its components
- Identify virtual network components

Network Installation and Configuration

- Install and configure routers and switches
- Install and configure a wireless network
- Purpose and properties of DHCP
- Troubleshoot common wireless problems
- Troubleshoot common router and switch problems
- Plan and implement a basic SOHO network

Network Media and Topologies

- Standard media types and associated properties
- Standard connector types based on network media
- Contrast of different wireless standards
- WAN technology types and properties
- Different network topologies
- Troubleshoot common physical connectivity problems
- Contrast of different LAN technologies
- Identify components of wiring distribution

Network Management

- Purpose and features of various network appliances
- Appropriate hardware tools to troubleshoot connectivity issues
- Appropriate software tools to troubleshoot connectivity issues
- Appropriate network monitoring resource to analyze traffic
- Purpose of configuration management documentation
- Different methods and rationales for network performance optimization

Network Security

- Implement appropriate wireless security measures
- Methods of network access security
- Methods of user authentication
- Common threats, vulnerabilities, and mitigation techniques
- Install and configure a basic firewall
- Different types of network security appliances and methods