

KOENIG SOLUTIONS • COURSE OUTLINE

CompTIA Network+ (N10-009)

Learn to design, implement, secure and troubleshoot networks across addressing, routing, wireless, cloud and operations.

5

MODULES

93

TOPICS

COURSE OVERVIEW

This course covers core networking fundamentals, including the OSI and TCP/IP models, ports and protocols, topologies, IP addressing and subnetting, network devices, and media and connectors. It then addresses network implementations such as switching, routing, wireless, WAN and cloud and virtualization concepts, followed by network operations covering monitoring, documentation, disaster recovery and network services. The course also examines network security, including attacks, secure design, hardening and remote access, before closing with network troubleshooting methodology, common issues and diagnostic tools.

WHO THIS COURSE IS FOR

Network Administrators

Network Engineers

Help Desk Technicians

IT Support Staff

Systems Administrators

LEARNING OBJECTIVES

- Explain the OSI and TCP/IP models and data encapsulation
- Apply IP addressing, subnetting and CIDR notation
- Identify common network devices and their functions
- Compare wired and wireless network topologies and media
- Configure switching and routing technologies such as VLANs and OSPF
- Describe cloud and virtualization concepts including IaaS and SDN
- Assess network security risks and apply hardening measures
- Apply troubleshooting methodology using tools such as ping and Wireshark

5 Modules, 93 Topics

01

24%

Networking Fundamentals

OSI & TCP/IP MODELS

- OSI 7-Layer Model
- TCP/IP Model
- Data Encapsulation Process

PORTS & PROTOCOLS

- Common TCP/UDP Ports
- Connection-Oriented vs Connectionless Protocols
- Secure Protocols (HTTPS, SSH, SFTP, etc.)

NETWORK TYPES & TOPOLOGIES

- LAN, WAN, MAN, PAN
- Wired vs Wireless Networks
- Physical & Logical Topologies (Star, Mesh, Bus, Ring, Hybrid)

IP ADDRESSING & SUBNETTING

- IPv4 Structure
- Public vs Private IP Addresses
- CIDR Notation
- Subnet Masks
- Binary Conversion
- IPv6 Addressing & Features

NETWORK DEVICES

- Routers
- Switches
- Firewalls
- Access Points
- Load Balancers
- IDS/IPS

NETWORK MEDIA & CONNECTORS

- Copper Cabling (UTP, STP)
- Fiber Optic Cabling
- Transceivers & Connectors
- Cable Standards (Cat 5e, Cat 6, etc.)

02

19%

Network Implementations

SWITCHING TECHNOLOGIES

- VLANs
- Trunking (802.1Q)
- STP (Spanning Tree Protocol)
- LACP

ROUTING TECHNOLOGIES

- Static vs Dynamic Routing
- Routing Protocols (RIP, OSPF, EIGRP, BGP)
- Route Selection (Administrative Distance & Metrics)

WIRELESS TECHNOLOGIES

- 802.11 Standards (Wi-Fi Generations)
- Wireless Security (WPA2, WPA3)
- Antennas & RF Concepts

WAN TECHNOLOGIES

- MPLS
- SD-WAN
- Broadband Technologies
- VPN Technologies

Network Implementations (continued)

CLOUD & VIRTUALIZATION CONCEPTS

- IaaS, PaaS, SaaS
- Public, Private, Hybrid Cloud
- Virtual Networking
- NFV & SDN

03

16%

Network Operations

MONITORING & PERFORMANCE

SNMP · Syslog · NetFlow · Performance Metrics

DOCUMENTATION & DIAGRAMS

Logical vs Physical Diagrams · Rack Diagrams · Baseline Documentation · Change Management

DISASTER RECOVERY & BUSINESS CONTINUITY

Backup Types · High Availability Concepts · Redundancy

NETWORK SERVICES

DNS · DHCP · NTP · Directory Services

04

19%

Network Security

SECURITY CONCEPTS

- CIA Triad
- Threat Actors
- Social Engineering

NETWORK ATTACKS

- DoS / DDoS
- Man-in-the-Middle
- VLAN Hopping
- ARP Poisoning

SECURE NETWORK DESIGN

- Segmentation
- Zero Trust
- Access Control Models
- NAC

NETWORK HARDENING

- Device Hardening
- Patch Management
- Password Policies
- Port Security

REMOTE ACCESS SECURITY

- VPN Types
- MFA
- AAA (Authentication, Authorization, Accounting)

Network Troubleshooting

TROUBLESHOOTING METHODOLOGY

Identify the Problem · Establish a Theory · Test the Theory · Establish a Plan of Action · Verify & Document

COMMON NETWORK ISSUES

IP Addressing Problems · DNS Issues · DHCP Failures · Routing Loops · Broadcast Storms

TOOLS & UTILITIES

Ping · Traceroute · ipconfig / ifconfig · netstat · nslookup · Wireshark · Cable Testers

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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