VPWEB.DEV · STUDY PLAN

CompTIA Network+

Exam N10-009

Network+ proves you can design, configure, manage, and troubleshoot networks. It is one exam (N10-009). The single most important mental model is the OSI layer stack — master it and most questions fall into place. This plan walks every domain and gives you the reference tables that matter.

Exam at a glance

EXAM	One — N10-009
PASSING SCORE	720 / 900 (scale 100–900)
LENGTH	Up to 90 questions, 90 minutes
QUESTION TYPES	Multiple choice + performance-based (PBQs)
COST (APPROX.)	·$369 USD voucher — check CompTIA for current pricing
VALIDITY	Good for 3 years; renew with CE (A+ also renews when you earn this)
BEST FOR	Network technician, junior network/systems administrator

Every domain, in depth

DOMAIN 1 — 23%

Networking Concepts

The theory layer: models, appliances, addressing, and modern architectures.

- OSI model — all 7 layers, what each does, and devices/protocols per layer
- Networking appliances & functions: routers, switches, firewalls, load balancers, proxies, IDS/IPS
- Cloud concepts: NFV, VPC, network security groups, IaaS/PaaS/SaaS
- Ports & protocols (see cheat sheet)
- Traffic types and transmission (unicast, multicast, broadcast, anycast)
- Topologies & architectures: star, mesh, hybrid; three-tier vs spine-and-leaf; SDN/SD-WAN
- IPv4/IPv6 addressing, subnetting & CIDR; public vs private; APIPA
- Modern environments: zero trust, SASE/SSE, infrastructure as code

DOMAIN 2 — 20%

Network Implementation

Building it: routing, switching, wireless, and physical installs.

- Routing: static vs dynamic; OSPF, BGP, EIGRP; default routes; NAT/PAT
- Switching: VLANs, trunking (802.1Q), STP, port security, link aggregation
- Wireless: 802.11 standards, 2.4/5/6 GHz, channels, antennas, SSID, roaming
- Physical installs: structured cabling, racks, patch panels, environmental factors

DOMAIN 3 — 19%

Network Operations

Keeping it running: documentation, monitoring, and availability.

- Documentation: physical/logical diagrams, IPAM, asset inventory, baselines
- Monitoring: SNMP, flow data (NetFlow), syslog, SIEM, performance metrics
- Disaster recovery & high availability: RTO/RPO, backups, redundancy, failover
- Network management & access methods: console, SSH, out-of-band, jump box

DOMAIN 4

14%

Network Security

Defending it: concepts, attacks, hardening, and remote access.

- Core concepts: CIA triad, AAA, zero trust, defense in depth
- Attacks: DoS/DDoS, on-path, VLAN hopping, ARP/DNS poisoning, rogue AP/evil twin
- Hardening: disabling unused ports/services, MAC filtering, 802.1X, segmentation
- Remote access: VPN (site-to-site, client), IPSec, TLS, SASE

DOMAIN 5

24%

Network Troubleshooting

The largest domain — methodology plus the diagnostic toolset.

- The seven-step CompTIA troubleshooting methodology
- Cabling/physical issues: attenuation, crosstalk, wrong pinout, bad SFP
- Service issues: DHCP exhaustion, DNS failures, gateway/routing problems
- Performance: latency, jitter, packet loss, bottlenecks, duplex/speed mismatch
- Tools: ping, traceroute/tracert, nslookup/dig, ipconfig/ifconfig, netstat, tcpdump, Wireshark

Week-by-week study plan

Week 1
Networking concepts & the OSI model

- Memorize all 7 OSI layers + examples
- Map devices and protocols to layers
- Learn topologies and modern architectures

Week 2
Addressing & subnetting

- IPv4/IPv6, public vs private, APIPA
- Drill subnetting/CIDR until automatic
- Practice subnet PBQs daily

Week 3
Implementation: routing & switching

- Static vs dynamic routing (OSPF/BGP/EIGRP)
- VLANs, trunking, STP, port security
- NAT/PAT and DHCP

Week 4
Wireless & operations

- 802.11 standards, bands, channels, antennas
- Monitoring: SNMP, flow, syslog, SIEM
- HA/DR: RTO/RPO, redundancy, failover

Week 5
Network security

- CIA, AAA, zero trust
- Common attacks and mitigations
- Hardening and VPN/remote access

Weeks 6–7
Troubleshooting + exam

- Master the methodology and CLI tools
- Full practice exams to ≥ 90%
- Book and pass N10-009

Cheat sheets

OSI MODEL (LAYER → NAME → EXAMPLES)

L	NAME	EXAMPLES
7	Application	HTTP, DNS, SMTP
6	Presentation	TLS, encoding, compression
5	Session	session setup/teardown
4	Transport	TCP, UDP, ports
3	Network	IP, routers, ICMP
2	Data Link	MAC, switches, frames
1	Physical	cables, signals, NICs

OSI MNEMONIC

1 → 7 Please Do Not Throw Sausage Pizza Away

7 → 1 All People Seem To Need Data Processing

SUBNETTING QUICK REFERENCE

CIDR	MASK	USABLE HOSTS
/24	255.255.255.0	254
/25	255.255.255.128	126
/26	255.255.255.192	62
/27	255.255.255.224	30
/28	255.255.255.240	14
/29	255.255.255.248	6
/30	255.255.255.252	2

WIRELESS STANDARDS

STANDARD	BAND	MAX (APPROX.)
802.11n (Wi-Fi 4)	2.4/5 GHz	600 Mbps
802.11ac (Wi-Fi 5)	5 GHz	~3.5 Gbps
802.11ax (Wi-Fi 6/6E)	2.4/5/6 GHz	~9.6 Gbps

KEY PORTS

22 / 23	SSH / Telnet
53	DNS
80 / 443	HTTP / HTTPS
161/162	SNMP
389 / 636	LDAP / LDAPS
3389	RDP
67/68	DHCP

Acronyms to know

OSI
Open Systems Interconnection

CIDR
Classless Inter-Domain Routing

VLAN
Virtual Local Area Network

STP
Spanning Tree Protocol

OSPF
Open Shortest Path First

BGP
Border Gateway Protocol

NAT
Network Address Translation

PAT
Port Address Translation

SDN
Software-Defined Networking

SASE
Secure Access Service Edge

SNMP
Simple Network Management Protocol

DHCP
Dynamic Host Configuration Protocol

DNS
Domain Name System

VPN
Virtual Private Network

IPSec
Internet Protocol Security

QoS
Quality of Service

RTO
Recovery Time Objective

RPO
Recovery Point Objective

IDS/IPS
Intrusion Detection / Prevention System

MTU
Maximum Transmission Unit

Recommended resources

- **Professor Messer** — free, complete video course covering every objective. Start here.
- **Practice exams** — the one paid resource worth buying; drill to a consistent 90% on fresh questions before booking (Jason Dion's are a community favorite).
- **Official CompTIA objectives PDF** — the literal exam blueprint; use it as your master checklist.
- **Hands-on labs** — VMs, a home lab, and real devices make concepts stick far better than reading alone.
- **Flashcards (Anki)** — for ports, acronyms, commands, and definitions via active recall.

The winning formula: follow the objectives top to bottom, get hands-on, and don't book the exam until you're consistently scoring 90%+ on fresh practice tests. For the full written walkthrough and career guidance, visit **vpweb.dev/blog**.