TECH ONBOARDING GUIDE

Networking and Network+

4-week detailed curriculum | Target: CompTIA Network+ (N10-009)

I built this guide to give you a clear path into technology without expecting you to already know the language. You are not supposed to understand everything on day one. Your job is to show up consistently, practice, ask questions, and keep evidence of what you build. I will help you connect the pieces, but the hands-on work is where the confidence will come from.

Study rule: Do not only watch videos. Type the commands, build the labs, break things, fix them, and explain what happened in your own words.

Your outcome for this phase

Understand how devices communicate, design small networks, and troubleshoot connectivity from the physical layer through applications.

Expected pace: 2-3 hours Monday through Friday, 3-4 hours Saturday, and Sunday reserved for rest or catch-up. Each week ends with something you can demonstrate.

Phase learning resources

Resource	How to use it
Cisco Skills for All	Free networking courses and Packet Tracer learning activities.
Cisco Packet Tracer	Network simulation tool for building and testing virtual networks.
Professor Messer N10-009 playlist	Free Network+ objective-aligned video course.
Practical Networking	Clear explanations of subnetting, routing, switching, and packet flow.
Wireshark Sample Captures	Practice analyzing real protocol traffic.

How to prove you learned it

- Explain the concept without reading notes.
- Complete the lab twice: once with instructions and once from memory.
- Push scripts, diagrams, screenshots, or written reflections to GitHub.
- Write down one failure, the cause, and the fix each week.
- Answer practice questions only after performing hands-on work.

Week 1 - Network models, devices, and protocols

Weekly deliverable: Complete the assigned lab, update your GitHub notes, and record a 3-5 minute explanation of what you learned.

Day	Exact learning assignment	Proof of work
Mon	LAN, WAN, internet, intranet, client-server, peer-to-peer, bandwidth, latency, throughput.	Notes + commands/screenshots
Tue	OSI and TCP/IP models; map real protocols and devices to each layer.	Notes + commands/screenshots
Wed	Switches, routers, access points, firewalls, load balancers, proxies, IDS/IPS.	Notes + commands/screenshots
Thu	Ethernet, MAC addresses, ARP, frames, collisions, duplex, MTU.	Notes + commands/screenshots
Fri	TCP vs UDP, ports, sockets, common application protocols.	Notes + commands/screenshots
Sat	Packet Tracer lab: build two LANs connected by a router and verify end-to-end traffic.	Completed lab + weekly recap

End-of-week questions

1. What problem does this technology or concept solve?
2. What are the most important commands, services, or components?
3. What broke during the lab, and how did you identify the cause?
4. How does this week connect to cloud or DevOps work?

Week 2 - IP addressing, subnetting, and core services

Weekly deliverable: Complete the assigned lab, update your GitHub notes, and record a 3-5 minute explanation of what you learned.

Day	Exact learning assignment	Proof of work
Mon	Binary and decimal conversion; IPv4 address structure and subnet masks.	Notes + commands/screenshots
Tue	CIDR and subnetting /24 through /30; calculate network, host range, and broadcast.	Notes + commands/screenshots
Wed	Private/public IPs, APIPA, loopback, IPv6 basics and address types.	Notes + commands/screenshots
Thu	DHCP DORA process, scopes, reservations, relay; DNS records and resolution.	Notes + commands/screenshots
Fri	NAT, PAT, default gateways, route tables, static and dynamic routing concepts.	Notes + commands/screenshots
Sat	Lab: design addressing for four departments and configure DHCP/DNS concepts in Packet Tracer.	Completed lab + weekly recap

End-of-week questions

1. What problem does this technology or concept solve?
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3. What broke during the lab, and how did you identify the cause?
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Week 3 - Wireless, cloud networking, security, and operations

Weekly deliverable: Complete the assigned lab, update your GitHub notes, and record a 3-5 minute explanation of what you learned.

Day	Exact learning assignment	Proof of work
Mon	Wi-Fi standards, frequencies, channels, interference, authentication.	Notes + commands/screenshots
Tue	VLANs, trunks, STP, link aggregation, segmentation.	Notes + commands/screenshots
Wed	VPNs, remote access, site-to-site connectivity, zero trust concepts.	Notes + commands/screenshots
Thu	Cloud networking: VPC/VNet, subnets, security groups, NACLs, gateways, load balancing.	Notes + commands/screenshots
Fri	Network documentation, diagrams, baselines, monitoring, SNMP, syslog.	Notes + commands/screenshots
Sat	Wireshark lab: inspect DNS, TCP handshake, TLS, HTTP, and ICMP captures.	Completed lab + weekly recap

End-of-week questions

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3. What broke during the lab, and how did you identify the cause?
4. How does this week connect to cloud or DevOps work?

Week 4 - Troubleshooting and exam readiness

Weekly deliverable: Complete the assigned lab, update your GitHub notes, and record a 3-5 minute explanation of what you learned.

Day	Exact learning assignment	Proof of work
Mon	Troubleshooting methodology: identify, theorize, test, plan, implement, verify, document.	Notes + commands/screenshots
Tue	Tools: ping, tracert/traceroute, ipconfig/ifconfig/ip, nslookup/dig, arp, netstat/ss, curl.	Notes + commands/screenshots
Wed	Physical and wireless faults: bad cable, duplex mismatch, interference, weak signal.	Notes + commands/screenshots
Thu	Logical faults: wrong mask, gateway, DNS, VLAN, route, ACL, DHCP exhaustion.	Notes + commands/screenshots
Fri	Timed scenarios and performance-based questions; create a personal command cheat sheet.	Notes + commands/screenshots
Sat	Full practice exam, error review, subnetting sprint, and certification readiness decision.	Completed lab + weekly recap

End-of-week questions

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2. What are the most important commands, services, or components?
3. What broke during the lab, and how did you identify the cause?
4. How does this week connect to cloud or DevOps work?

Final phase assessment

Do not move forward based only on time spent. Move forward when you can perform and explain the following:

- Complete the main project without copying every step.
- Troubleshoot at least three intentionally introduced failures.
- Explain the architecture or workflow using a diagram.
- Score at least 80% on two separate practice assessments when a certification is targeted.
- Teach the core concepts back to another person in plain language.

Certification note

Target: **CompTIA Network+ (N10-009)**. Certification dates should be adjusted based on readiness. Passing quickly is less important than retaining the skill and being able to use it in a real environment.