

# Advanced 6-Week Networking Learning Plan

## Week 1: Core Networking & Protocols

- Day 1: Deep Dive into OSI & TCP/IP Model
- Day 2: Advanced IP Addressing (IPv4, IPv6, Subnetting, VLSM, CIDR)
- Day 3: Protocol Analysis (HTTP/HTTPS, DNS, DHCP, FTP, SNMP, ICMP)
- Day 4: Network Topologies & Redundancy (HSRP, VRRP, GLBP)
- Day 5: Packet Flow Analysis using Wireshark
- Day 6: Advanced Switching Concepts (VLANs, STP, EtherChannel)
- Day 7: Hands-on Lab: Configuring VLANs & STP in Cisco Packet Tracer

## Week 2: Routing & Advanced Network Architecture

- Day 8: Static vs Dynamic Routing (RIP, OSPF, EIGRP, BGP)
- Day 9: OSPF & EIGRP Advanced Concepts
- Day 10: Border Gateway Protocol (BGP) - Configuration & Best Practices
- Day 11: MPLS (Multi-Protocol Label Switching)
- Day 12: Network Address Translation (NAT, PAT) Deep Dive
- Day 13: IPv6 Advanced Routing & Transition Mechanisms
- Day 14: Hands-on Lab: Configuring OSPF, EIGRP, and BGP

## Week 3: Network Security & Threat Defense

- Day 15: Firewalls (Cisco ASA, Palo Alto, Fortinet)
- Day 16: Intrusion Detection & Prevention Systems (IDS/IPS)
- Day 17: Zero Trust Security Model
- Day 18: VPN Technologies (IPSec, SSL VPN, GRE Tunnel)
- Day 19: Network Access Control (802.1X, NAC, AAA)
- Day 20-21: Security Labs: Configuring Firewalls & VPNs

## Week 4: Cloud, Virtualization & SDN

- Day 22: Cloud Networking (AWS, Azure, Google Cloud)
- Day 23: Virtualization & Hypervisors (VMware, Hyper-V, KVM)

- Day 24: Software-Defined Networking (SDN) & OpenFlow
- Day 25: Load Balancing & High Availability
- Day 26: Network Automation with Python & Ansible
- Day 27-28: Hands-on Labs: Deploying SDN & Network Automation

## **Week 5-6: Network Operations, Forensics & Career Prep**

- Day 29-30: Network Monitoring (Nagios, Zabbix, PRTG)
- Day 31-32: AI & Machine Learning in Networking
- Day 33-34: Network Forensics & Threat Hunting
- Day 35-36: Real-World Troubleshooting & Performance Tuning
- Day 37-38: Advanced Interview Preparation & Resume Writing
- Day 39-42: Final Capstone Project & Certification Exam Readiness

## **Recommended Resources**

- Books: 'CCNP & CCIE Official Cert Guides', 'Mastering Networks'
- Online Courses: Cisco Networking Academy, Coursera, Udemy
- Hands-on Labs: Cisco Packet Tracer, GNS3, EVE-NG