

Basic Networking Course

Chapter 1: Introduction to Networking

A computer network is a group of interconnected devices that share resources and information.

Networks can be local (LAN), wide area (WAN), or metropolitan (MAN).

Chapter 2: Types of Networks

- LAN (Local Area Network)
- WAN (Wide Area Network)
- MAN (Metropolitan Area Network)
- PAN (Personal Area Network)

Chapter 3: Network Topologies

- Star
- Bus
- Ring
- Mesh
- Hybrid

Chapter 4: OSI and TCP/IP Models

- OSI Model (7 layers): Physical, Data Link, Network, Transport, Session, Presentation, Application
- TCP/IP Model (4 layers): Network Interface, Internet, Transport, Application

Chapter 5: IP Addressing and Subnetting

- IPv4 vs IPv6
- IP address format (e.g., 192.168.1.1)
- Subnet mask and subnetting basics
- Private vs public IP addresses

Chapter 6: Common Network Devices

Basic Networking Course

- Router
- Switch
- Hub
- Modem
- Firewall

Chapter 7: Network Protocols

- HTTP/HTTPS
- FTP
- SMTP
- DHCP
- DNS
- TCP and UDP

Chapter 8: Introduction to Wi-Fi and Wireless Networks

- Wireless standards (802.11a/b/g/n/ac/ax)
- Wi-Fi security (WEP, WPA, WPA2, WPA3)
- Access Points and SSID

Chapter 9: Network Security Basics

- Firewalls
- VPNs
- Encryption
- Common threats: Malware, Phishing, DDoS

Chapter 10: Troubleshooting Basics

- Ping and traceroute
- IP configuration commands (ipconfig, ifconfig)

Basic Networking Course

- Checking cables and connections
- Restarting devices