

Module 4:

Networking and Online Tools for Support

Overview

- Basics of Computer Networking
- Setting Up a Local Network
- Online Tools for Remote Support

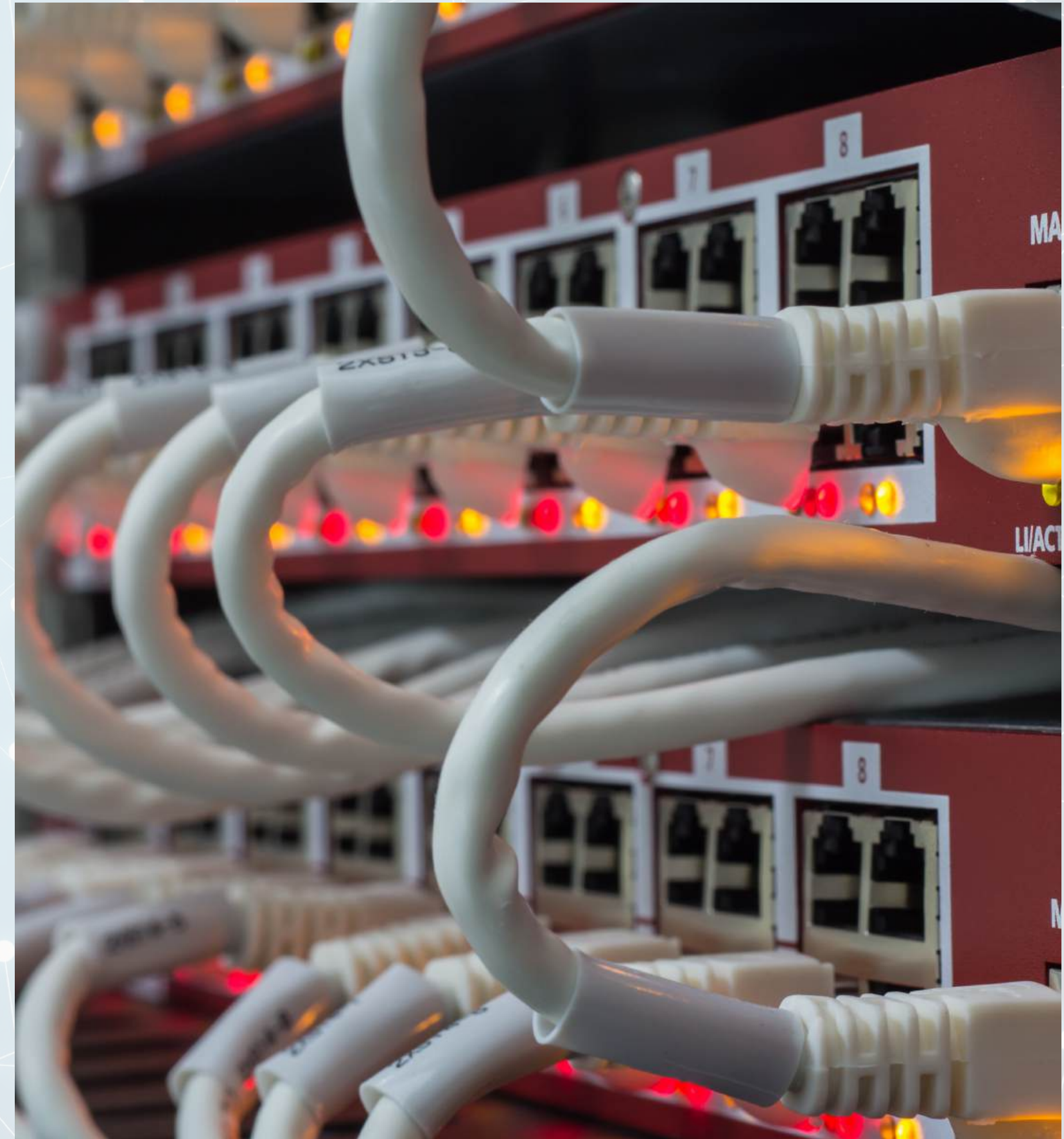
Lesson 4.1

Basics of Computer Networking



LAN (Local Area Network)

- It is a small network covering a limited area like a home, office, or building. It's fast, private, and commonly uses Ethernet or Wi-Fi.



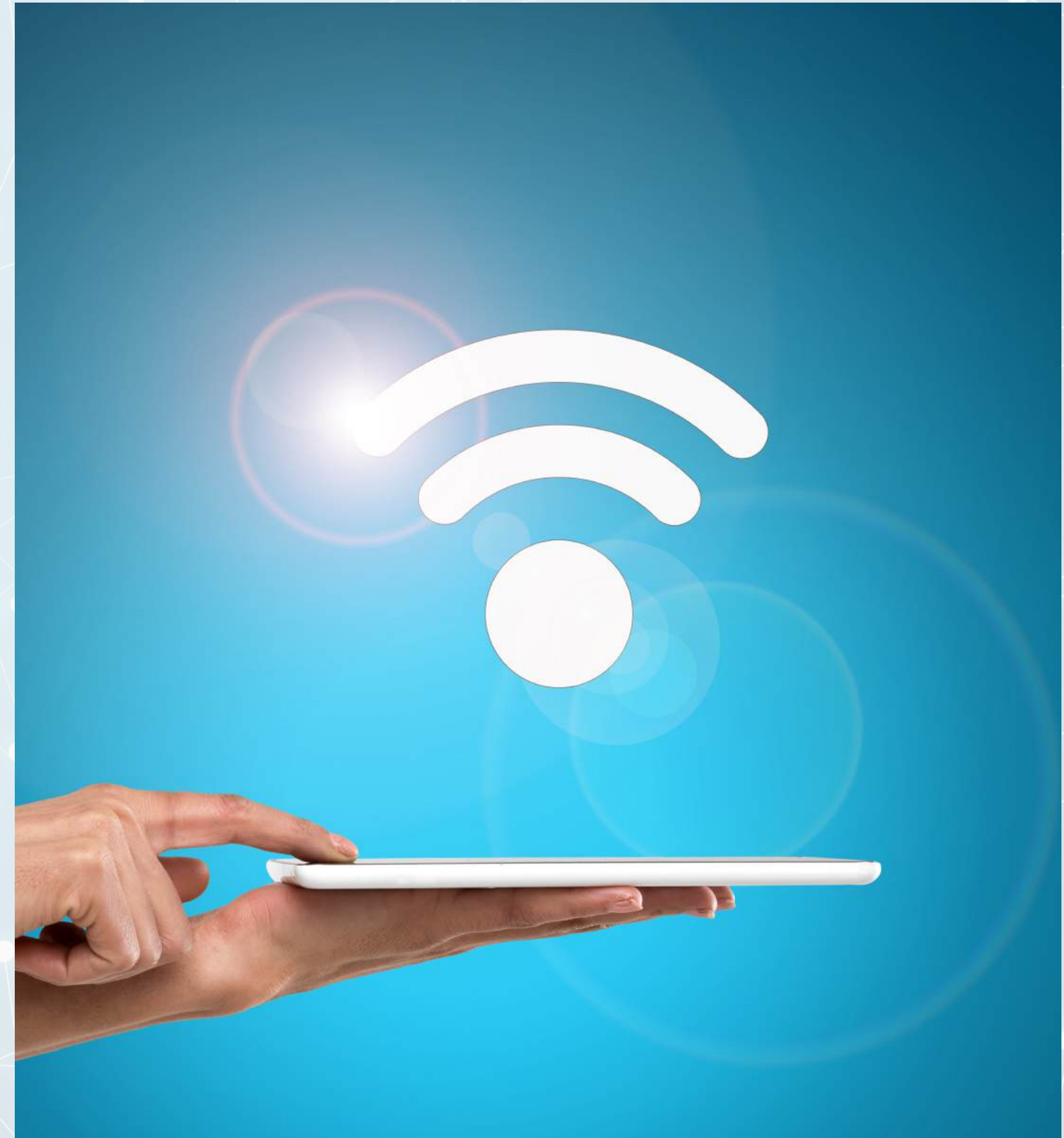
WAN (Wide Area Network)

- Is a network that spans a large area such as cities or countries. The Internet is the largest WAN.



Wi-Fi

- A wireless networking technology that uses radio waves to provide high-speed Internet and network connections without physical cables.



IP Address (Internet Protocol)

- A unique identifier assigned to each device on a network
 - Example: 192.168.1.1
- IPv4 - is most common
- IPv6 - supports more addresses



Subnetting

- A method of dividing a large network into smaller, more manageable sub-networks (subnets)
- Improves security and efficiency



Router

- Connects multiple networks and directs traffic between them. Often includes built-in firewall and DHCP



Switch

- Connects devices within a LAN and forwards data only to the intended recipient device



Modem

- Connects your home or office network to your Internet Service Provider (ISP). Converts digital data to analog and vice versa



Lesson 4.2

Setting Up a Local Network

Connecting Devices

- Devices like PCs, printers, and smartphones can be connected using:
 - Ethernet cables (wired)
 - Wi-Fi (wireless)
- Devices must be on the same network (e.g., same router) to communicate with each other.



File and Printer Sharing

- **In Windows:**
 - Go to Network and Sharing Center > Change advanced sharing settings
 - Enable File and Printer Sharing
 - Right-click a folder or printer > Properties > Sharing
- **On Linux:**
 - Use Samba (SMB) to share with Windows systems



Network Configuration Tools

- **ipconfig (Windows) / ifconfig (Linux/Mac):**
View network settings
- **ping:** Test if a device is reachable on the network
- **tracert:** See the path your data takes to reach a destination
- **netstat:** View current network connections



Lesson 4.3

Online Tools for Remote Support



Remote Desktop Applications

- **TeamViewer and AnyDesk**
 - are popular tools for remote support
 - Allow screen sharing, file transfer, and remote control
 - Require installation and a unique access code or ID
- **Windows Remote Desktop (RDP)**
 - is built-in but usually works only on Windows Pro versions



Using Chat and Ticketing Systems

- **Tools**
 - like Slack, Microsoft Teams, or Live Chat allow real-time communication with clients
- **Ticketing systems**
 - (e.g., Zendesk, Freshdesk) help track support issues by creating a case number (ticket) for each user request



Security in Remote Access

- Always use strong passwords and two-factor authentication
- Never share remote access codes publicly
- Use VPNs and encryption when possible
- Log and monitor remote sessions for auditing and accountability

