Project Title: Basic Network Design for a Small Office

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Objective:

To design and simulate a basic network for a small office that connects devices for efficient communication and internet access.

Network Requirements:

1. **Devices**:
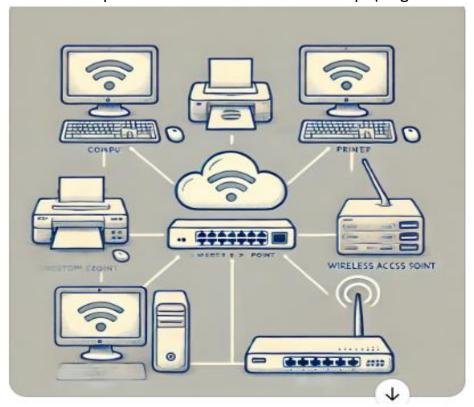   - o 4 Computers (Workstations)
   - o 1 Printer
   - o 1 Wireless Access Point
   - o 1 Router
   - o 1 Switch

2. **Network Configuration**:
   - o IP addressing (Static or DHCP)
   - o Basic security measures (Wi-Fi password, firewall)
   - o Internet access

Network Diagram:

Below is a visual representation of the network setup. (I'll generate this for you!)

Components and Explanation:

1. **Router**:

   o   Connects the office network to the internet.

   o   Acts as the first line of defense with basic firewall settings.

2. **Switch**:

   o   Provides wired connections to all devices in the network.

   o   Ensures efficient data transfer between devices.

3. **Wireless Access Point (WAP)**:

   o   Extends the network wirelessly for mobile devices or laptops.

   o   Configured with a secure password.

4. **Computers (Workstations)**:

   o   Serve as the main devices for office work.

5. **Printer**:

    o   Shared among all users in the network.

    o   Configured with a static IP for easy identification.

6. **Internet Cloud**:

    o   Represents the connection to the internet.

IP Addressing:

- **Router**: 192.168.1.1

- **Switch**: Not applicable (Layer 2 device)

- **Access Point**: 192.168.1.2

- **Workstations**: 192.168.1.10 - 192.168.1.13

- **Printer**: 192.168.1.20

Security Measures:

1. Use WPA3 encryption for the wireless network.

2. Set up a strong admin password for the router.

3. Enable the firewall on the router.

4. Use antivirus software on all workstations.

END