# Basic Network Troubleshooting: A Guide for New Techs

Welcome to your first line of defense in IT support! This guide walks through the most common network issues and the practical steps you can take to resolve them. Perfect for aspiring Help Desk and IT Support Technicians.

## Common Network Issues

1. No Internet Connection  
2. Slow or Unstable Wi-Fi  
3. IP Address Conflict  
4. DNS Server Not Responding  
5. Unable to Reach Certain Websites

## Basic Troubleshooting Steps

1. Restart Devices

- Power cycle the modem and router (unplug for 10 seconds, plug back in).

- Restart the computer or device having issues.

2. Check Physical Connections

- Ensure Ethernet cables are properly connected.

- Check for loose or damaged cables.

3. Use Command Line Tools (Windows)

ipconfig /release  
ipconfig /renew  
ipconfig /flushdns  
ping 8.8.8.8  
tracert google.com

4. Verify IP and DNS Settings

- Ensure device is set to obtain IP and DNS automatically (DHCP).

- For static IP setups, check correct configuration.

5. Test With Another Device

- Helps determine if issue is device-specific or network-wide.

6. Move Closer to the Router (Wi-Fi Only)

- Physical obstructions can weaken signal strength.

## Useful Tools

- Command Prompt (cmd)  
- Router Admin Panel (192.168.0.1 / 192.168.1.1)  
- Network Adapter Troubleshooter (Windows)  
- Wi-Fi Analyzer apps (mobile)

## Mini Case Study: Helping a Friend

A friend complained their laptop randomly lost internet throughout the day. I:  
1. Restarted the router and laptop.  
2. Ran `ipconfig /release` and `/renew`.  
3. Checked DNS settings.  
4. Found that the router was overheating — suggested relocating it.  
  
Issue resolved, and their connection has been stable since.

## Next Steps

- Learn how to use `nslookup` and `netstat`  
- Practice troubleshooting both wired and wireless connections  
- Study OSI and TCP/IP models to understand what’s happening behind the scenes

\*Written by Enmanuel Pereira – Aspiring IT Support Specialist\*