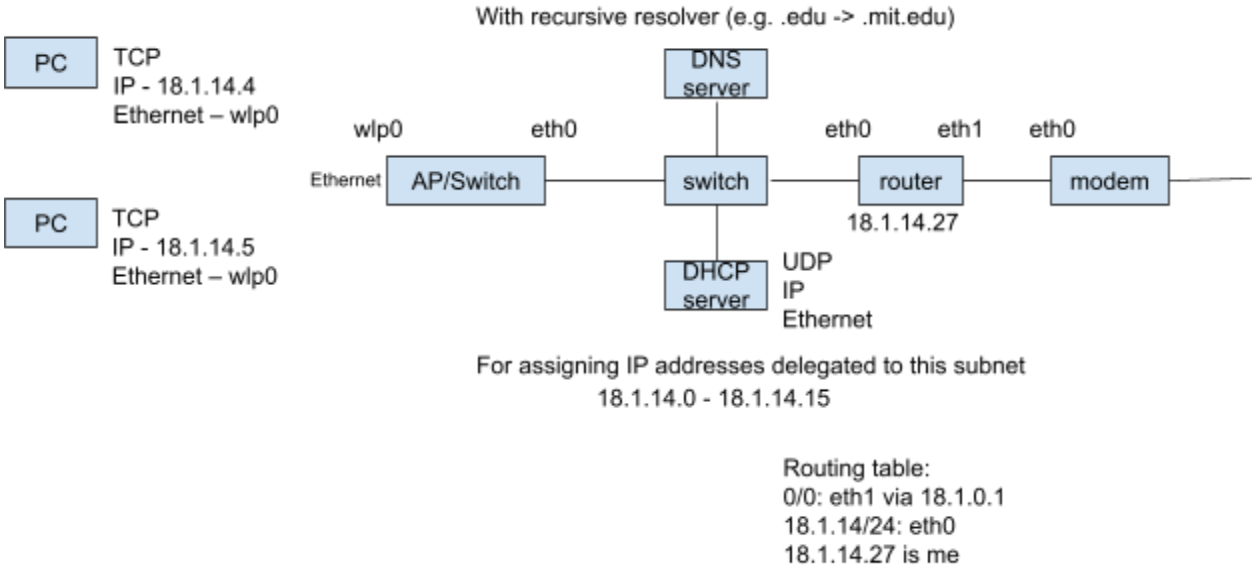
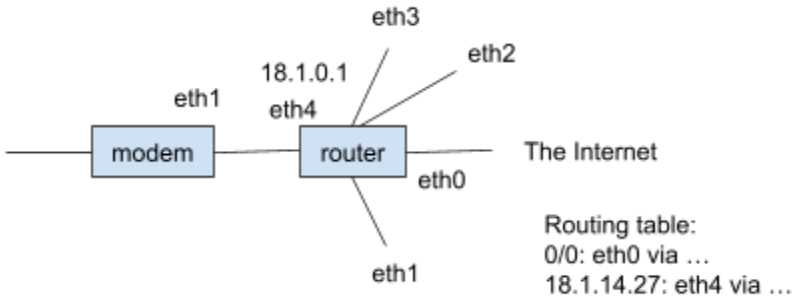
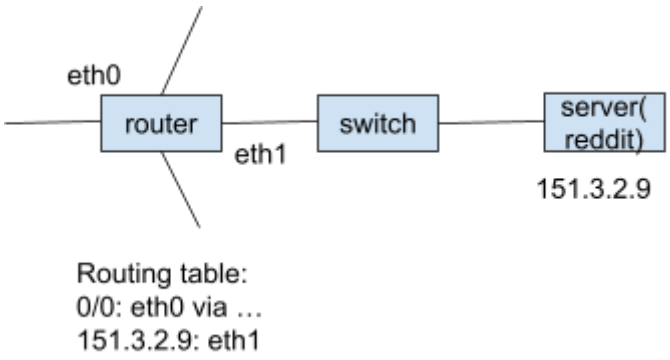
Last time: level 5 home subnetwork
Home subnet:



ISP:



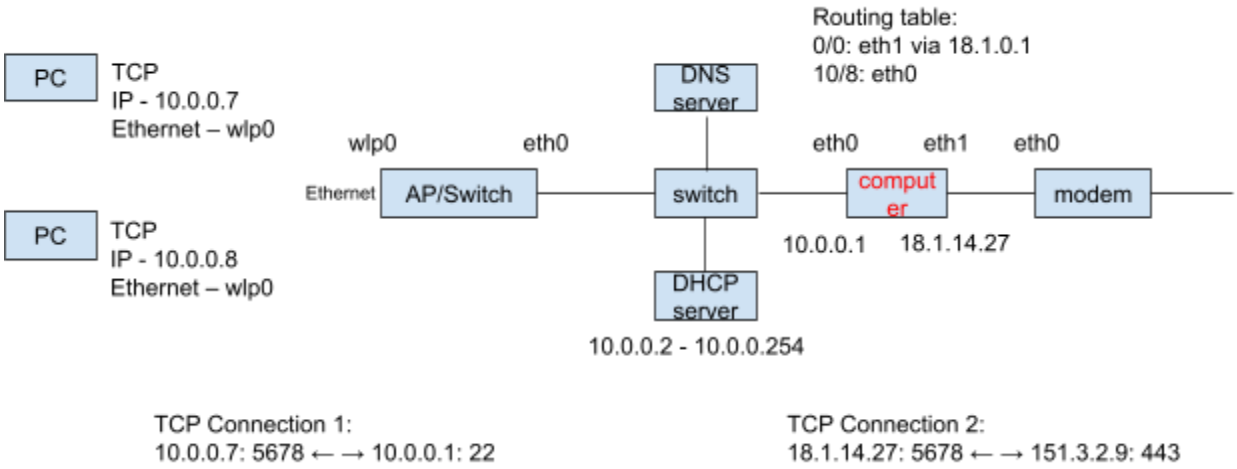
The reddit:



- If we live in the world of IPv6 (each hosts get assigned a unique IPv6 address):
    - As long as PC1 (18.1.14.4) and the reddit (151.2.3.9) stores the source and dst IP addresses of the TCP Connection in their socket, the TCP connection can be done

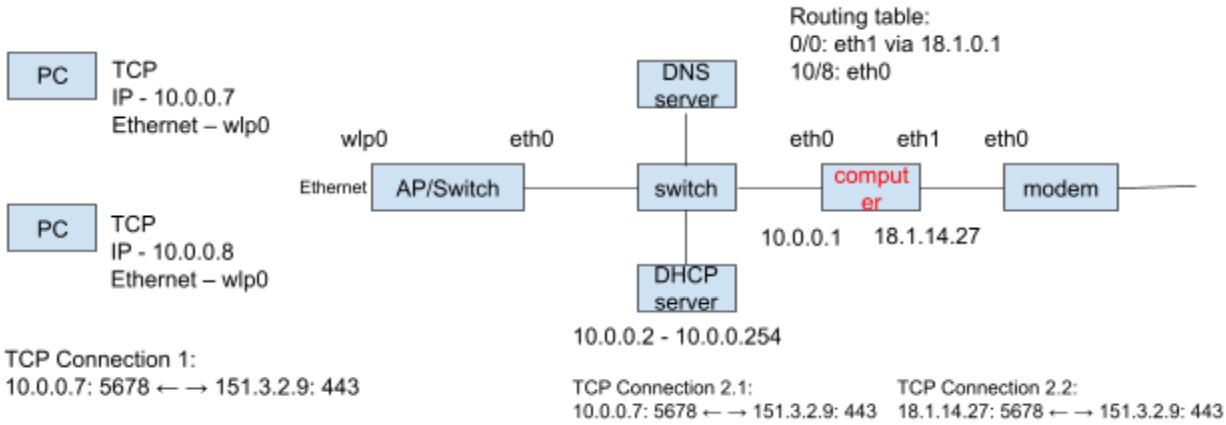
    - PC1: 18.1.14.4: 5678 ← —> 151.3.2.4:443: reddit
- DNS + DHCP + switch + router + modem used to be independent parts, but now they goes in to a “home router” you can buy from a shop

- Level 6: Proxy server/ jump host / bastion / socks5
    - Each subnets have a local range of IPv4 addresses



- The computer relays the bytes between TCP connection 1 and TCP connection 2.
- But this is annoying for asking every new PC to also set up the proxy

- Level 7: Transparent Proxy



- The PC does not know the existence of the proxy
- And the proxy computer acts as if it is the reddit server in the home subnet, and relay the connection out with its own public IP address

- Level 8: network address/port translation (NAT)
    - For the proxy, it no longer reconstruct the byte stream, but only do translation on the IP address and port to appear in the public network