Linux Networking Interview Questions and Answers

1. What is an IP Address?

Answer: An IP address is a unique identifier assigned to each device on a network, allowing it to communicate with other devices. It can be either IPv4 (e.g., 192.168.1.2) or IPv6 (e.g., fe80::1).

2. What is the purpose of a Subnet Mask?

Answer: A subnet mask defines the network and host portions of an IP address, helping to determine which part of the address refers to the network and which part refers to the device.

3. What is a Gateway?

Answer: A gateway is a router or device that connects a local network to the internet, allowing data to flow between different networks.

4. Explain the function of DNS.

Answer: The Domain Name System (DNS) translates human-readable domain names (like www.example.com) into IP addresses that computers use to identify each other on the network.

5. What is a MAC Address?

Answer: A MAC address is a unique hardware identifier assigned to network interfaces for communications at the data link layer of a network segment.

6. What does DHCP do?

Answer: The Dynamic Host Configuration Protocol (DHCP) automatically assigns IP addresses and other network configuration parameters to devices on a network, allowing them to communicate effectively.

7. How can you check your network configuration in Linux?

Answer: You can check your network configuration using the `ip addr show` command to display IP addresses and network interfaces, or the `ifconfig` command for legacy systems.

8. How do you configure a static IP address on a Debian-based system?

Answer: To configure a static IP address on a Debian-based system, you would edit the `/etc/network/interfaces` file and add the necessary configuration, then restart the networking service.

9. What command would you use to check the default gateway?

Answer: You can check the default gateway using the command `ip route show`.

10. What tools can you use for network troubleshooting in Linux?

Answer: Common tools for network troubleshooting include `ping` to test connectivity, `traceroute` to display the path packets take, `netstat` to show network connections, and `nslookup` to query DNS servers.