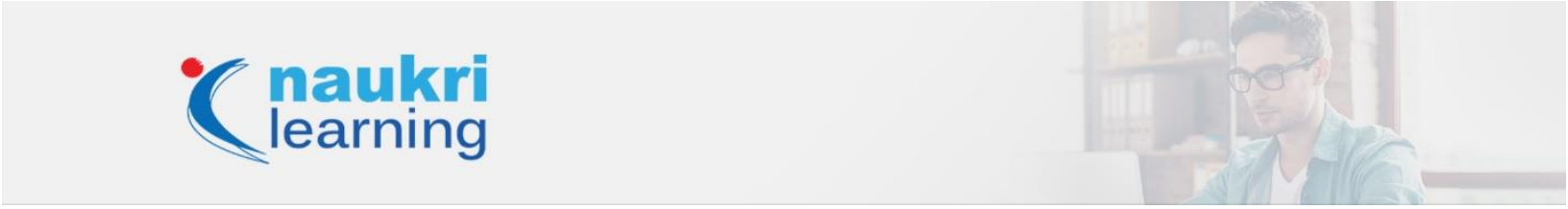

Top Hardware & Networking Interview Questions & Answers

Hardware and networking engineers are the core members of any organisation's IT team. They are responsible for implementing, maintaining, supporting, developing and, in some cases, designing communication networks within an organisation or between organisations. Their goal is to ensure the integrity of high availability network infrastructure to provide maximum performance for their users.

Companies look for expert professionals who can handle their networking requirements efficiently. There are a lot of opportunities for such professionals in the industry and if you want to boost your career, you should definitely think of going for a certification course in networking, like CCNA or CompTIA. There are various courses depending on the level of expertise – beginner, intermediate or advanced.

Getting a job is not easy and the competition is high nowadays. You have to be well-prepared to crack a Networking job interview.

Here are some of the probable **Hardware and Networking Interview questions** that may be asked in a hardware and networking interview:

Q1. What are the two types of transmission technology available?

Answer: The two types of transmission technology are – **broadcast** and **point-to-point**.

Q2. What is a 'subnet'?

Answer: A '**subnet'** is a generic term for a section of a large network, usually separated by a bridge or a router.

Q3. What is DNS?

Answer: The **Domain Name System (DNS)** is a central part of the Internet, providing a way to match names (a website you're seeking) to numbers (the address for the website). Anything connected to the Internet – laptops, tablets, mobile phones, and websites – has an Internet Protocol (IP) address made up of numbers.

Q4. Explain 'hidden shares'.

Answer: A hidden or an administrative share is a network share that is not visible when viewing another computer's shares.

Q5. How many layers are there in the OSI model? Name them

Answer: There are 7 layers – physical, data link, network, transport, session, presentation, and application.

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Q6. What is a 'client' and 'server' in a network?

Answer: Clients and **servers** are separate logical entities that work together over a network to accomplish a task.

Q7. What are the different ways to exchange data ?

Answer:

- Simplex
- Half-duplex
- Full-duplex

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Q8. What is a 'frame relay' and in which layer does it operate?

Answer: A frame relay is a packet-switching technology. It operates in the data link layer.

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Q9. What is a MAC address?

Answer: A MAC (Media Access Control) address is the 48-bit hardware address of a LAN card and is usually stored in the ROM of the network adapter card and is unique.

Q10. What are the perquisites to configure a server?

Answer:

- LAN card should be connected
- Root (partition on which window is installed) should be in NTFS format
- Server should be configured with a static IP address

Q11. What is 'beaconing'?

Answer: Beaconing is the process that allows a network to self-repair networks problems.

Q12. Differentiate between 'attenuation', 'distortion', and 'noise'.

Answer: When a signal travels through a medium, it loses some of its energy due to the resistance of the medium. This loss of energy is called **attenuation**.
When a signal travels through a medium from one point to another, it may change the form or shape of the signal. This is known as **distortion**.
Noise is unwanted electrical or electromagnetic energy that degrades the quality of signals and data.

Q13. What is an IP address?

Answer: An **Internet Protocol** address (IP address) is a numerical label assigned to each device (e.g., computer, printer) participating in a computer network that uses the Internet Protocol for communication.

Also Read>> Top Network Engineer Interview Questions & Answers

Q14. Differentiate between a 'bit rate' and 'baud rate'.

Answer: A bit rate is the number of bits transmitted during one second, whereas, **baud rate** refers to the number of signal units per second that are required to represent those bits.
Baud rate = bit rate / N, where N is the no. of bits represented by each signal shift.

Q15. What is 'bandwidth'?

Answer: The limited range of frequency of signals that a line can carry is called the **bandwidth**.

Q16. What is Project 802?

Answer: It is a project started by IEEE to set standards to enable intercommunication between equipment from a variety of manufacturers.

Q17. What is ICMP?

Answer: ICMP (Internet Control Message Protocol) is a network layer protocol of the TCP/IP suite used by hosts and gateways to send notification of datagram problems back to the sender.

Q18. What are the major types of networks?

Answer:

- Server-based network
- Peer-to-peer network

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Q19. What are the important topologies for networks?

Answer: There are three important topologies – **Star, Bus** and **Ring.**

Q20. Differentiate between static IP addressing and dynamic IP addressing.

Answer: In **static IP addressing**, a computer (or another device) is configured to always use the same IP address, whereas in **dynamic IP addressing**, the IP address can change periodically and is managed by a centralised network service

Q21. What is a LAN?

Answer: LAN stands for Local Area Network and it refers to the connection between computers and other network devices, located in proximity to each other.

Q22. What are routers?

Answer: Routers connect two or more network segments. These intelligent network devices store information in its routing table such as paths, hops and bottlenecks. They determine the most accurate data transfer paths and operate in Open Systems Interconnection (OSI) Network Layer.

Q23. What is data encapsulation?

Answer: Data encapsulation is the process of breaking down information into smaller manageable chunks before their transmission across the network.

Q24. What is VPN?

Answer: VPN stands for Virtual Private Network. This is a connection method for adding security and privacy to private and public networks, such as Wi-Fi Hotspots and Internet. VPNs helps in establishing a secure dial-up connection to a remote server.

Q25. How can you secure a computer network?

Answer: There are a number of ways to achieve this.

- Install reliable and updated anti-virus program across the network
- Ensure firewalls are setup and configured properly
- Monitor firewall performance
- User authentication
- Update passwords regularly, every quarter
- Create a virtual private network (VPN)

Q26. What are proxy servers and how do they protect computer networks?

Answer: Proxy servers prevent external users to identify the IP addresses of an internal network. They make a network virtually invisible to external users, who cannot identify the physical location of a network without knowledge of the correct IP address.

Q27. What are Nodes and Links?

Ans.

Nodes – Devices or data points on a larger network are known as nodes. They are individual parts of a larger data structure and contain data. They also link other nodes.

Links- A link is the physical and logical network component for interconnecting hosts or nodes in a network. It is a physical communication medium such as coaxial cable or optical fiber.

Q28. What is SLIP?

Answer: SLIP or Serial Line Interface Protocol was developed during the early UNIX days and it is used for remote access.

Q29. What is TCP/IP?

Answer: TCP/IP is the short form of Transmission Control Protocol / Internet Protocol. It is a set of protocol layers designed to facilitate data exchange on heterogeneous networks.

Q30. What common software problems lead to network defects?

Answer: It can be any or a combination of –

- Application conflicts
- Client server problems
- Configuration error
- Protocol mismatch
- Security issues
- User policy & rights issues

Q31. What is client/server network?

Answer: In client/server network, one or more computers act as servers. Servers offer a centralized repository of resources such as printers and files. Client refers to workstation that have an access to the server.

Q32. Describe networking.

Answer: Networking facilitates data communication between computers and peripherals, and it is done through wired cabling or wireless links.

Q33. Why is encryption on a network important?

Answer: Encryption is the process of changing data from its original readable format to an unreadable format, thus ensuring network security. It requires the user to use a secret key or password to decrypt the data.

Q34. What are the types of errors?

Answer: There are two categories of errors –

- Single-bit error – One-bit error per data unit
- Burst error – Two or more bits errors per data unit

Q35. What is a client server model?

Answer: Client-server model is a distributed communication framework of network processes. This framework is distributed among service requestors, clients and service providers.

Q36. What is TELNET?

Answer: TELNET is a client-service protocol on the Internet or local area network, allowing a user to log on to a remote device and have an access to it. Technically, it is a bidirectional interactive text-oriented communication facility, which uses a virtual terminal connection.

You probably now have a good idea of the type of questions that can be asked in a hardware and networking interview. Still, you need to be prepared to answer other types of questions that will test your interpersonal, business or methodology skills.

If you are someone who has recently started your career in networking, you can think of enhancing your skills and getting a stamp for it via a professional certification course in hardware and networking. Naukri Learning offers a comprehensive range of such courses to help you get certified for various techniques and skills needed to be an expert in the field.

Add on questions – 2

Be prepared for some specific **networking interview questions** too**.** Here are some more.

Q37.What is RIP?

It is the abbreviation for Routing Information Protocol. It is a simple protocol that exchanges information between the routers.

Q38.What is half-duplex?

It is the mode of communication between two devices. Here the data flows bi-directionally but simultaneously. A perfect example of a half-duplex is a walkie-talkie.

Q39.What is full duplex?

This is also a mode of communication between two devices and the data flow is bi-directional too, but the flow is simultaneously. Example – telephone.

Q40.What is netstat?

It is a command line utility program that provides information about the current Transmission Control Protocol /Internet protocol (TCP/IP) settings of a connection.

Q41.What is a peer-peer process?

The processes on each machine that communicate at a given layer are called peer-peer process.

Q42.What is anonymous FTP?

With the help of an anonymous FTP, users can be granted an access to files in public servers. Users can log in as anonymous guests, thus the name.

Q43.Can you explain NAT?

It stands for Network Address Translation and is a protocol that allows a network device, usually a firewall, to assign a public address to a computer/s inside a private network.

Q44.Can you tell me the main elements of a protocol?

This is among the very commonly asked **networking interview questions**. Your reply should be –
There are three main elements of a protocol –

1. Syntax: It refers to the structure or format of the data and their order of presentation.
2. Semantics: It specifies the meaning of each section of bits.
3. Timing: Timing refers to two characteristics, which include the timing of data sending and the speed of data sending.

Q45.What is NIC?

NIC is the abbreviation for Network Interface Card. It is a peripheral card with an electronic circuitry. It is attached to a PC and connects it to a network. NIC has its own MAC address and this identifies a PC on the network.

Q46.What is the difference between Communication and Transmission?

Transmission – A process of sending and receiving data between source and destination, in only one way. It is regarded as the physical movement of data.
Communication – A process of sending and receiving data between source and destination, in both ways.

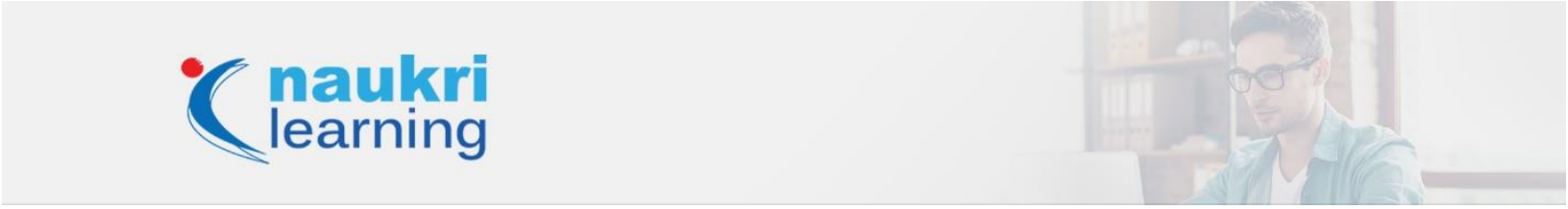
Q47.How many layers does TCP/IP have?

TCP/IP has four layers –

- Network Layer
- Internet Layer
- Transport Layer
- Application Layer

Q48.Explain NOS.

Short form for Network Operating System. A specialized software, that provides connectivity to a computer such that it can communicate with other computers and devices on a network.



Q49.What is IDEA?

IDEA is abbreviation for International Data Encryption Algorithm. It is the replacement for Data Encryption Standard (DES).

Q50.What is ASCII?

American Standard Code for Information Interchange.

Q51.What is Brouter?

Brouter is a device that functions as both a bridge and a router. It forwards data within the networks and also routes data to individual systems in a network.

Q52.How would you differentiate between Firewall and Antivirus?

Another popular **networking interview question**.

Both are security applications used in networking.

A firewall prevents any unauthorized access in the private networks as intranets. However, it does not protect against virus, spyware, or adware.

An antivirus is a software that protects a computer from any malicious software, virus, spyware, or adware.

Q53.How will you recover data from a Virus-infected system?

We will install an OS and updated antivirus in a system that is free of any viruses, and then connect the hard drive of the infected system as a secondary drive. Hard drive will then be scanned and cleaned. Data can now be copied into the system.

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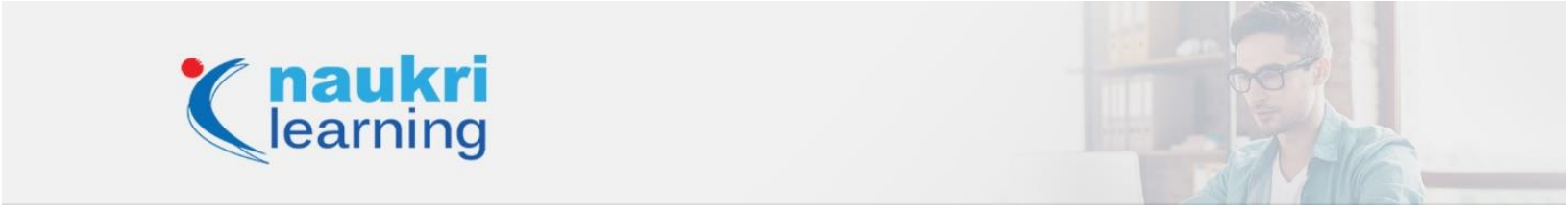

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