



Hardware and Networking Interview Questions and Answers

Introduction

Knowledge of Hardware and Networking is the backbone of any strong IT environment. This list of frequently asked hardware and networking interview questions and answers includes all the necessary topics, ranging from the layers of the OSI models to TCP/IP, hardware issues, and network security. It is imperative to show that there is a deep understanding of how the physical world works in conjunction with the logical environment. Are you ready to pass the systems engineer certification exam? Get practical experience by joining our professional [Hardware and Networking Certification Course](#) today.

List of Hardware and Networking Interview Questions for Freshers

1. What are the layers of the OSI reference model?
2. What are a node and links?
3. What is DNS?
4. Differentiate the domain and the workgroup?
5. Define IP.
6. Define Layer?
7. What is Hub?
8. Define Switch.
9. Define Client/Server
10. What is a MAC Address?
11. What are the required things to configure the server?
12. Define Proxy Server.
13. What are the bootable files of Windows 98 and Windows XP?
14. What is the partition for Linux installation?
15. What is Sap?

Explore our [Hardware and Networking Course Syllabus](#).

Hardware and Networking Interview Questions and Answers for Freshers

1. What are the layers of the OSI reference model?

There are seven layers in the OSI model, such as the physical layer, data link layer, network layer, transport layer, session layer, presentation layer, and application layer.

2. What are a node and links?

The devices at various endpoints located in a network at a different location are called nodes, and the physical communication medium they using called links.

3. What is DNS?

There are two types of client/server programs: the first is used directly by the user, like a mail and the second supports other application programs. The DNS (Domain

Name System) is a supporting program used by other programs to find the IP address of an email recipient.

4. Differentiate the domain and the workgroup?

In the domain, a server is responsible for data security, and it is under centralized administration. The main goal of DNS is to secure data, and it is the best suite for company environments. On the other hand, in the workgroup, every PC is responsible for its data, and there will be no centralized administration. The main aim of this workgroup is to save hardware resources, and it is best suited for schools, training institutes, and cybercafé.

5. Define IP.

An Internet Protocol (IP address) is a numerical label assigned to each device of a computer network that utilizes the Internet Protocol for communication and data transactions.

6. Define Layer?

The layer is a logical partition of the PDU (Protocol Data Unit) process, and it defines how the information travels from one machine to another over the network connection.

**Take your Knowledge
Test Report**

Check your Score



7. What is Hub?

Hub is a layer 1 device that lets out the signal from all of its ports except the one from where it is inserted, and it can't able to detect the collision. Hub works on a single collision and a single broadcast domain.

8. Define Switch.

The switch is a layer 2 device that maintains a CAM table to store the MAC addresses of devices connected to its port. The CAM table is used to make the

forwarding decision for the network, and it works according to collision and a single broadcast domain.

9. Define Client/Server.

Clients and Servers are two different logical entities that are connected over a network to perform a task.

10. What is a MAC Address?

The MAC (Media Access Control) Address is the 48-bit hardware address of the LAN card, and it is stored in ROM on the network adapter card with a unique identity.

11. What are the required things to configure the server?

The prerequisites for configuring a server are a LAN card that is connected, a Root that should be in NTFS (New Technology File System), and a Server that should be configured with a static IP address.

12. Define Proxy Server.

A proxy server is a server that all computers on the local network should pass through before accessing the information on the Internet. Many organizations are using a proxy server to improve network performance and filter users to avoid unauthorized access to their information.

13. What are the bootable files of Windows 98 and Windows XP?

The bootable file for Windows 98 is command.com, and for Windows XP, it is NTLDR (NT Loader).

14. What is the partition for Linux installation?

As Linux does not support a Windows file system that follows a partition scheme, it will use its own file system called ext2 and ext3. Linux will be installed on the root position.

15. What is Sap?

The sap is the series of interface points that enable other computers to communicate with the layers of a network protocol stack.

Utilize our [Hardware and Networking Tutorial for Beginners](#) to begin your IT journey.

List of Hardware and Networking Interview Questions for Experienced

1. Define subnet mask?
2. What is multicast routing?
3. Define traffic shaping.
4. What is the region?
5. What protocols will be used by DNS?
6. What are the types of routing tables, and explain their advantages?
7. Define a DNS resource record.
8. Why is the Hello protocol being used?
9. What are the various network types?
10. What are the advantages of SAN?
11. What is terminal emulation?
12. Define frame-relay?
13. What is Triple X in Networks?
14. Define Cladding.
15. What is the command to check the IP address without using Network Places?
16. What is the full form of CMOS?
17. What is the Swap Size?
18. Define Attenuation.
19. Define Distortion.
20. What is Noise and explain its types.

Hardware and Networking Technical Interview Questions and Answers for Experienced

1. Define subnet mask?

The subnet mask is a term that differentiates the network address and the host address in an IP address. The value of 0 in a subnet mask defines the host position in the IP address, and the value 1-255 defines the network address.

2. What is multicast routing?

The sending of group messages is known as multicast, and the routing algorithm implemented for this is multicast routing.

3. Define traffic shaping.

The heaviest traffic leads to congestion, and if the hosts are made to transfer the data at a uniform rate, congestion will be less. It allows another loop open method to help manage congestion to send the packet to get transferred at a more predictable rate, and this process is known as traffic shaping.

4. What is the region?

The routers will be divided into regions when hierarchical routing is used to reach the destination without knowing the internal structure of other regions.

5. What protocols will be used by DNS?

DNS utilizes UDP for communication between servers, and for improved speed, it uses TCP for a connectionless protocol, as transmission reliability is a risky one for UDP.

6. What are the types of routing tables, and explain their advantages?

There are three types of routing tables: fixed table, dynamic table, and fixed central table. A fixed table should be updated every time it is changed, a dynamic table gets updated based on network traffic to reduce the amount of manual maintenance, and a fixed central table is reduced to only one table.

7. Define a DNS resource record.

A DNS resource record is an entry in a name server's database, and various types of resource records include name-to-address resolution information. Resource records will be maintained as ASCII files.

**Take your Knowledge
Test Report**

Check your Score



8. Why is the Hello protocol being used?

The hello protocol uses time to replace the distance to determine optimal routing, and it is an alternative to the Routing Information Protocol.

9. What are the various network types?

LAN (Local Area Network), WAN (Wide Area Network), MAN (Metropolitan Area Network), CN (Content Network), and SAN (Storage Area Network).

10. What are the advantages of SAN?

The advantages of SAN are faster performance, high availability, redundancy features, spanned distances, easy maintenance, low overhead, and thin protocol.

Gain top niche IT skills with our [hardware and networking project ideas](#).

11. What is terminal emulation?

Telnet is also referred to as terminal emulation, and it belongs to the application layer.

12. Define frame-relay?

Frame relay is a packet-switching technology, and it will be operated in the data link layer.

13. What is Triple X in Networks?

The PAD (Packet Assembler Disassembler) is defined in a document known as X.3, and the standard protocol has been described between the terminal and the PAD known as X.28, and another protocol is between the PAD and X.29. The recommendations of these descriptions are called Triple X.

14. Define Cladding.

Cables with a shield and typical fiber-optic cables that have a narrow strand of glass are known as cladding.

15. What is the command to check the IP address without using Network Places?

The command for checking the IP address is Start à Run à Command à ipconfig.

16. What is the full form of CMOS?

The full form of CMOS is a Complementary Metal Oxide Semiconductor.

17. What is the Swap Size?

The hard disk space used, like RAM for fast processing, is the size of the swap. In Windows OS, it is known as virtual memory, and it will be configured as per the requirement through this path: My Computer à Properties à Advanced. In Linux, it is referred to as SWAP space, and it takes twice the size of physical RAM. If we have 256 MB, the DDR physical RAM swap will be 512 MB.

18. Define Attenuation.

When the signal travels through a medium, it will lose its energy due to the medium's resistance. This energy loss is called attenuation, and it is the reason we feel the warmth when a wire carries electric signals. The amplifiers are being used to overcome this attenuation problem.

19. Define Distortion.

When the signal travels through a medium from source to destination, it may change the form or shape of the signal, and it is called distortion. It will be made up of various frequencies, and each signal component has a unique progression to speed up through a traveling medium and the delay of reaching the final destination.

20. What is Noise and explain its types.

The noise is the type of impairment of signal crossing, and the various types of Noise are thermal noise, induced noise, crosstalk noise, and impulse noise. Thermal noise will be produced by the random motion of electrons in a wire. Induced noise comes from sources such as motors, crosstalk noise is the effect of a single wire on the other, and impulse noise is produced from power lines and lightning.

Conclusion

Passing a Hardware and Networking interview means you must be able to show your understanding of the OSI model, IP addressing, and your skills in hardware troubleshooting. Employers look for candidates who can go beyond simple connectivity to administer VLANs, protect network gateways, and optimize hardware performance. Your skills in troubleshooting physical layer connectivity while maintaining logical data integrity will demonstrate your worth in

maintaining mission-critical infrastructure. As companies grow, your knowledge of Network Security and Cloud Infrastructure will make you stand out as a high-level systems administrator. Ready to lay the foundation of IT? Master infrastructure with the Systems Engineering Program in our [software training institute in Chennai](#).