Top Network Engineer Interview Questions and Answers

Are you looking to start a career in networking? Or are you looking to switch to another organization as a network engineer? No matter what you want, this article covers some of the commonly-asked Network Engineer interview questions during a job interview for the position of a network engineer.

Network engineers are associated with the responsibility of creating computer network systems for a company using information technology so that its employees can use it. These networks can include local area networks (LAN), wide area networks (WAN), intranets, and extranets. The work of a typical network engineer varies with the size and function of an organization. To become an expert network engineer, you need to have all the requisite skills, which you can acquire with the help of professional certification courses.

The demand for network engineers has grown over the last few decades as organizations have expanded their IT networks. According to Indeed.com, there are more than 16481 job opportunities available for network engineers.

Here are some of the prominent certification courses for network engineers:

- Cisco Certifications – CCNA and CCNP are two common Cisco certifications.
- JNCIE-ENT – Juniper Networks Certified Enterprise Routing and Switching Expert.
- CompTIA Network+
- WCNA – Wireshark Certified Network Analyst.

Prepare the following network engineer interview questions and answers to gain a competitive edge in your next interview:

Q1. What is a 'link'?

Ans. A link refers to the connectivity between two devices. It includes the type of cables and protocols used in order for one device to be able to communicate with the other.

Q2. What are the types of LAN cables used?

Ans. There are two types of LAN cables used – 'Cat 5' and 'Cat 6.' Cat 5 can support 100Mbps of speed while Cat 6 can support 1Gbps of speed.

Q3. What is a 'cross table'?

Ans. This is a type of connection between the same types of devices without using a hub/switch so that they can communicate.

Q4. What is DNS? Why is it used?

Ans. DNS (Domain Name System) 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).

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Q5. A gateway works in which layer of the OSI model?

Ans. Transport layer.

Q6. How many layers are there in the OSI reference model? Name them

Ans. There are seven layers: the physical layer, data link layer, network layer, transport layer, session layer, presentation layer, and application layer.

Q7. Differentiate between 'forward lookup' and 'reverse lookup' in DNS?

Ans. Converting names to IP addresses is called forward lookup.

Resolving IP addresses to names is called reverse lookup.

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Q8. What is a 'backbone network'?

Ans. A backbone network is a centralized infrastructure that is designed to distribute different routes and data to various networks. It also handles the management of bandwidth and multiple channels.

Q9. What is a LAN?

Ans. A LAN (Local Area Network) and refers to the connection between computers and other network devices that are located within a small physical location.

Q10. What is WAN?

Ans. A wide area network (WAN) is a telecommunications network or computer network that extends over a large geographical distance.

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Q11. What is a router? What are its basic roles?

Ans. A router is a layer three network device used to establish communication between different networks. The roles of a router are –

- inter-network communication
- Best path selection
- Packet forwarding
- Packet filtering

Q12. What are the criteria for the best path selection of a router?

Ans. The following parameters define the path selection:

- Longest prefix match
- Minimum AD (administrative distance)
- Lowest metric value

Q13. Define 'anonymous FTP'.

Ans. Anonymous FTP is a way of granting user access to files in public servers.

Q14. What is the difference between 'standard' and 'extended' ACL (access control list)?

Ans. Standard ACLs are source-based, whereas extended ACLs are source- and destination-based.

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Q15. What is RAS?

Ans. RAS (Remote Access Services) refers to any combination of hardware and software to enable remote access to tools or information that typically reside on a network of IT devices.

Q16. What is 'network topology'?

Ans. Network topology refers to the layout of a computer network. It shows how devices and cables are physically laid out, as well as how they connect to one another.

Q17. What is NIC?

Ans. NIC (Network Interface Card) is a peripheral card that is attached to a PC in order to connect to a network. Every NIC has its own MAC address that identifies the PC on the network.

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Q18. How many layers are there under TCP/IP?

Ans. There are four layers: the Network Layer, Internet Layer, Transport Layer and Application Layer.

Q19. What is RIP?

Ans. RIP (Routing Information Protocol) is used by routers to send data from one network to another.

Q20. What are 'firewalls'?

Ans. Firewalls serve to protect an internal network from external attacks.

Q21. Name the layers under TCP/IP?

Ans. There are four layers under TCP/IP:

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

Q22. Mention a few examples of private network addresses.

Ans. Few examples of private network addresses are:

10.0.0.0 with a subnet cover of 255.0.0.0172.16.0.0 with subnet cover of 255.240.0.0192.168.0.0 with subnet cover of 255.255.0.0

Q23. Mention the number of network IDs in a Class C network?

Ans. In the Class C network, the number of accessible network ID bits is 21. The number of available network IDs is two increased to 21 or 2,097,152. The total number of host IDs per network ID is two increased to 8 minus 2, or 254.

Q24. Name common software problems that can lead to network defects?

Ans. Following are the software related problems:

- Protocol mismatch
- Security issues
- Application conflicts
- Error in configuration
- Client-server problems
- User policy and rights issues

Q25. Mention the different network protocols that are supported by Windows RRAS services?

Ans. Following are the three main network protocols supported by Windows RRAS services:

- NetBEUI
- TCP/IP
- IPX

Q26. Mention the uses of the Hamming code?

Ans. Following are some of the common applications of using Hemming code:

- Modems
- Satellites
- PlasmaCAM
- Shielding wire
- Embedded Processor
- Computer Memory
- Open connectors

Q27. Explain what SMTP is?

Ans. SMTP is termed as Simple Mail Transfer Protocol. It works for all the internal mail and offers the required mail delivery services on the TCP/IP protocol stack.

Q28. Name the various technologies involved in building WAN links?

Ans. Various technologies involved in building WAN links are:

- Digital connections – using digital-grade telephone lines
- Analogue connections – using conventional telephone lines
- Switched connections – using different sets of links between the sender and receiver to move data.

Q29. Explain what is NVT (Network Virtual Terminal)?

Ans. NVT is defined as a set of pre-defined rules to very virtual terminal interaction. This virtual terminal helps you to start a telnet session.

Q30. Explain the role of the IEEE in computer networking?

Ans. Institute of Electrical and Electronics Engineers (IEEE) is an organization comprised of engineers that manage standards for electrical and electronic devices. It involves networking devices, cablings, network interfaces, and connectors.

Q31. Explain why the standard OSI model is known as 802.xx?

Ans. The OSI model was introduced in February 1980. In 802.XX, '80' is named for the year 1980, and '2' is named as the month of February.

Q32. Name the measurement unit used to measure the transmission speed of Ethernet?

Ans. Mbps is the measurement unit used to measure the transmission speed of Ethernet.

Q33. Explain what source route is?

Ans. The source route is defined as a sequence of IP addresses that are used to identify the route a datagram. You can also involve the source route in the IP datagram header.

Q34. Mention the maximum length of Thinnet cable?

Ans. The maximum length of the Thinnet cable is 185 meters.

Q35. Name the cable which uses the RJ11 connector?

Ans. Telephone cables use the RJ11 connector.

As you now have an idea of the type of questions that could be asked in a network engineer interview, you can be well prepared. In addition, you need to be prepared to answer other types of questions related to competency, behavioural and opinion-based. Also,improve your communication skills to boost your confidence.

If you are looking to be successful in the IT industry, enrol yourself for a network engineer certification course to understand the techniques and skills required to be an expert.

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