Top 20 CCNA Interview Questions and Answers

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CCNA Interview Questions and Answers

The CCNA jobs involve the validated knowledge of installing, configuring, operating, and troubleshooting switched and routed networks within enterprises. Here are the popular CCNA interview questions and answers for you to prepare for the technical rounds of top companies.

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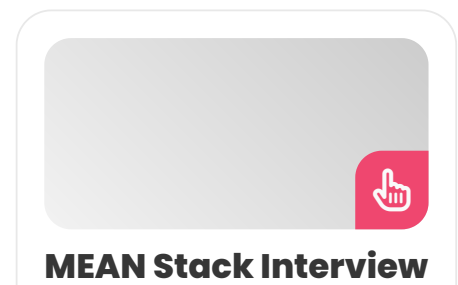
CCNA Interview Questions and Answers for Freshers

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1. Define Routing

Routing is the process of finding and establishing a path for data to pass from source to destination. It will be performed in many types of networks namely circuit-switched networks, computer networks, etc. A router is a type of layer device that performs routing.

2. What is the use of data links?

The purpose of the data link layer is to verify whether messages are sent to the right device and another function of the data link layer is framing. The major purposes of the data link layer are framing and link access, reliable delivery, flow control, error detection, error correction, and half-duplex and full-duplex.

3. Define Data Packets.

A data packet is a unit that is made into a single package for transmission across a network. They are also defined as a network layer package and used by IP protocol, as they consist of the IP information that is attached to each packet.

4. List out the various IPX access list.

There are two different IPX access lists below:

- **Standard IPX access list**: It is used to filter the source or destination IP address.
- **Extended IPX access list:** It is used to access source and destination IP addresses, protocol, socket, and port when filtering a network.

5. What are the key advantages of switches?

- When a switch receives a signal, it creates a frame out of the bits that are in that signal.
- Using this process, it obtains access, reads the destination address, and forwards that frame to the appropriate port.
- This is an efficient means of data transmission
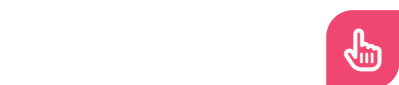
instead of broadcasting it on all ports.

6. When does the congestion occur in the network?

Network congestion will occur when too many users try to use the same bandwidth and this is true in large networks that will not resort to network segmentation.

7. Define the window in networking

A window in networking refers to the number of segments that are allowed to be sent from source to destination before an acknowledgment is sent back.

8. What is HDLC?

HDLC stands for *High-Level Data Link Control*, which is a group of communication protocols that usually provide reliable delivery of data frames across communication or network links.

It is a proprietary protocol for CISCO and it is the default encapsulation operated within CISCO routers. It ensures the error-free transmission of data and provides both connection-based and connectionless services.

9. Explain DLCI

DLCI stands for *Data Link Connection Identifier.* It is a frame relay 10-bit-wide link-local virtual circuit assigned normally using frame relay service to identify uniquely on the network. It identifies which of the logical circuits the data travels over.

10. What is the LAN switching method used in Cisco Catalyst 5000?

The store-and-forward switching method is used in Cisco Catalyst 5000 for storing the entire frame to its buffers and performing a CRC check before

determining whether or not to forward that data frame.

CCNA Interview Questions and Answers for Experienced Professionals

11. What are the major functions of routers?

The router is a device that forwards data packets within a network from source to destination. They are designed to receive, analyze, and forward data packets between computer networks by examining the destination IP address of a data packet.

It uses headers and a routing table to find the best way or route for passing the data packets. Popular companies that are developing routers are HP, Cisco, Juniper, Nortel, etc.

The major functions of routers are:

- Sending and receiving data over computer networks
- Using to create a local network of devices
- Helping to connect multiple devices to the internet
- Allowing users to configure the port according to the needs of the network
- Using to segment network traffic
- Preventing network bottlenecks by isolating portions of a network
- Reducing excessive traffic.
- Filtering unwanted interference and carrying out the process of data encapsulation and decapsulation

12. What are the types of routes that are available in routers?

Types of routes in routers are static routing, dynamic routing, and default routing.

- **Static routing** is a non-adaptive route and it is either directly configured on an active interface of the router or manually updated to the routing table by an admin.
- **Default routing** is configured to send all packets to a single router and it doesn't consider whether it is to a specific network. It is used while the networks deal with a single exit point.
- **Dynamic Routing** is the adaptive route that makes automatic adjustments to the routes according to the current state of the route in the routing table and is also used in routing protocols to determine network destinations.

13. List out the various memories used in Cisco routers

The various memories used in Cisco routers are:

- **NVRAM (Non-volatile RAM)** is used to store startup configuration files and it also retains its content even after a device is rebooted or powered down.
- **DRAM (Dynamic Random Access Memory)** is used to store configuration files that are being executed and it loses its content once the device is restarted.
- **ROM (Read-Only Memory)** is used to store a bootstrap program that initializes a boot process and it also runs and maintains instructions for POST diagnostics.
- **Flash memory** is used to store Cisco iOS and it can also be used to store files such as configuration files.

14. Explain Frame Relay

Frame Relay is a packet-switching technology used to transfer data between geographically separated LANs across WANs. It simply offers connection-oriented communication by developing and maintaining virtual circuits.

It is a cost-efficient technology used to join two or

more routers with a single interface and it works on the data link layer and physical layer of the OSI model.

15. Explain the three different ways of data transmission in CCNA

Simplex: The communication is unidirectional in this mode, as on a single-direction road. Using this, one of the two devices of a connection can communicate and the other can just get. In this simplex mode, the whole limit of the channel will be utilized to send information in one way.

Half-duplex: In half-duplex, a device can transmit and receive simultaneously. When one device is sending, the other will receive and vice versa.

It is utilized when there is no requirement for communication in both directions, and the whole limit of the channel will be utilized in every direction.

Full-duplex: In full-duplex mode, both the transmitting device and the receiving device can communicate simultaneously, which means both can be transmitting and receiving at the same time. Signals going in one direction share the capacity of the connection with signals going in the other direction.

16. What are the various types of cables used in routing?

There are three different types of cables used in routing, such as straight cable, cross cable, and rollover cable.

- **Straight cables** are used to connect various groups of devices. They are used in LAN to connect various devices, such as computers, to a network hub like a router, switch, and PC. Its primary goal is to connect a host to the client.
- **Cross cables** are used to connect the same group of devices and they are considered one of the most commonly used cable formats for

network cables. It is used when two similar devices are connected. They are also known as cross-wired cables.

- **Rollover cables** are used to connect the console port of the computer. It is designed to be flat to help distinguish it from other types of cables. It allows programmers to connect to network devices and also manipulate the programming whenever required. They are also referred to as Yost Cable, Console Cable, or Cisco Cable.

17. How can you depict an IP address?

To depict an IP address, there are three possible ways, as follows:

- Using dotted-decimal like 192.168.0.0
- Using Binary like 10000010.00111011.01110010.01110010
- Using Hexadecimal like 82 1E 10 A1

18. Explain EIGRP with some metrics.

EIGRP is the acronym for *Enhanced Interior Gateway Routing Protocol,* which refers to Cisco's IGP (Interior Gateway Protocol) used on a computer network.

It is used to automate routing decisions and configurations. It is suitable for various topologies and media.

It is widely used on a router to share routes within the same autonomous system. It includes metrics such as bandwidth, load, delay, reliability, MTU, and maximum transmission unit.

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19. Explain the two types of networks in CCNA.

The two types of networks in CCNA are server-based networks and peer-to-peer networks.

Server-based network: This network is also known as a client-server network. A node known as a server will provide services to the clients. The centralized server is used to store the data, as its management is centralized on the server.

Peer-to-peer network: This network is also known as a computer-to-computer network or P2P. Nodes or computers are addressed as peers that are connected. Each node in this network is connected to another node.

20. List out the passwords that can be used in Cisco Routers

The passwords that can be used on Cisco routers include the following:

Enabled: A global command that disables privileged execution mode means the password can't be encrypted. To change the password, we can use "enable password."

Enable Secret: To enable a password in a particular place, the secret password is used. To change it, we can use "enable secret password."

AUX (Auxiliary): Auxiliary passwords are set for auxiliary ports and through a modem, a router can be accessed through the auxiliary port.

Console: Console port passwords will be set using the console password.

VTY (Virtual Terminal): We need the virtual terminal password for telnet sessions into the router. These passwords can be changed at any time and we can set them up when we configure the router from the console.

Conclusion

Our CCNA Interview Questions and Answers help you get into networking jobs and improve your understanding and skill level that the company requires. Join our **CCNA training in Chennai** to learn

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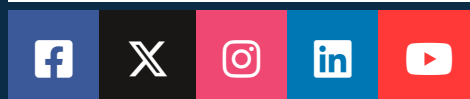- SLA's Recently Placed Students
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