Interview Questions

Transport Layer

Q1. What is a TCP transmission control protocol? **(Oracle Corporation)**
Answer: TCP is one of the fundamental standards that define Internet rules and is included in the Internet Engineering Task Force (IETF) standards. In digital network communication, and guarantees the transmission of data from one end to the other. TCP is also responsible for organizing data to be transferred between a server and a client. It guarantees the integrity of the data transmitted over a network. Before sending data, TCP establishes a connection between a source and its destination, which it maintains until communication begins. Large amounts of data are then divided into smaller packets while maintaining data integrity throughout the process.

Q2. What are the TCP sequence number and the data offset in the TCP header? **(Larsen & Toubro Infotech)**
Answer: The sequence number that initiates the TCP connection must choose a random initial number that is then incremented according to the number of bytes transferred. The data offset in the TCP header indicates the size of the TCP header. They are expressed in 32-bit words. One word represents four bytes.

Q3. Differentiate between UDP and TCP. **(Mphasis)**
Answer: Transmission Control Protocol (TCP) is connection-oriented, i. H. Once a connection is established, then data can be transmitted in two directions. TCP has built-in systems to check for errors and ensure data is delivered in the order it was sent, making it the perfect protocol for transferring information such as still images, data files, and web pages.

Q4. What are TCP timers? What are the different timers? **(Xansa)**

Answer: TCP keepalive timeout defines the time interval for the TCP connection to verify if the FCIP connection is working correctly. This ensures that FCIP connection errors are caught quickly, even when the connection is idle. The four types of TCP timers are:

- Timeout timer
- Timeout timer
- Keep Alive Timer
- Persistent timer

Q5. What is DNS? What role does DNS play in a network? **(Xansa)**

Answer: All computers on the Internet, from your smartphone or laptop to the servers that serve content for large retail websites, find and communicate with each other using numbers. When anyone opens a web browser and goes to a website, they don't have to memorize and enter a long number. Instead, they can enter a domain name like example.com and end up in the right place anyway. Each domain can correspond to more than a single IP address. Some sites have even had hundreds or more IP addresses that correspond to a single domain name. For example, the IP that your computer accesses for www.google.com is likely to be different from the IP that someone in another country could access by typing the same site name into their browser.