**Q8. What is DNS and How it’s works?**

**Ans:**

The Domain Name System (DNS) is called the phonebook of the Internet. When a user types a domain name or website address into the address bar of the browser, the DNS server is responsible for translating the domain name to a specific IP address, driving it to the correct website.

A DNS server is a server that manages the domain name system or DNS protocols, matching Internet domain names and IP addresses. The DNS server may also manage domain resolution services.

In the traditional client/server Internet model, DNS servers are built on specific hardware, and run specialized DNS software to accomplish these goals. In the DNS server, there is a database of domain names, host information, DNS records and network data. The DNS server will search records to return a result. This process allows DNS clients to access the DNS server through a web browser. A process of DNS caching can make this type of work more effective through removing the load of repetitive queries: A DNS cache system will keep a local copy of a DNS lookup so that an operating system (OS) or browser can retrieve it more quickly, and a website's URL can be resolved to a proper IP address more efficiently.

As DNS server designs have evolved, not all DNS servers are still run on individual on-premises hardware pieces. DNS servers can be run through the use of virtual machines in a logically partitioned network.

The versatility of virtualization has ushered in new models for how to achieve the DNS processes that have always been part of Internet data transfer protocols. In a general sense, virtualization and logical partitioning are making the requirement of isolated server function practically obsolete, and allowing stakeholders to consolidate these and other kinds of processes through large mainframe computers in modern data centers.

**The complex process actually goes something like this:**

* The user types “xyz.com” into the address bar of the browser and presses enter.
* The browser sends a request to that domain’s nameservers.
* The nameservers reply back with the IP address of the website’s server.
* Then the browser requests the website content from that IP address.
* The browser retrieves the content and shows it in your browser.