# DNS

DNS - DNS Stands for Domain Name System/Service/Server

**What is DNS?**

DNS is the Phonebook of Internet

Human access information online through domain names like nytimes.com, web browsers internet protocol addresses. DNS translates domain names to IP addresses so browsers can load internet resources.

DNS servers eliminates the need for human to memorize IP addresses such as IPv4 addresses and more complex alphanumeric IPs like IPv6

**How does DNS work?**

The process of DNS resolution involves converting a hostname i.e. domain name into computer friendly ip address

## There are 4 DNS servers involved in loading a webpage:

**DNS recursor :**

we can say it is like librarian who is asked to go find a particular book somewhere in library. it is server designed to receive queries from client thorough applications such as web browsers. It is responsible for making additional request in order to satisfy the client's DNS query

**Root Name server :**

it is first step in translating (resolving) human redable host names into ip addresses. it can be thought of like an index in library that points to different racks of books - typically it serves as a reference to other more specific locations

**TLD name server :**

The top level domain server can be thought of as a specific rack of books in library. this nameserver is next step in the search for a specific IP address, and it hosts the last portion of a hostname

**Authoritative nameserver :**

This final nameserver can be thought of as a dictionary on a rack of books, in which a specific name can be translated into its definition. The authoritative nameserver is the last stop in the

nameserver query. If the authoritative name server has access to the requested record, it will return the IP address for the requested hostname back to the DNS Recursor (the librarian) that made the initial request.