`domain name service` (DNS)

- Provides a translation service to convert human-readable domain names into machine readable IP addresses. DNS is a system of servers that provies us this service.
- Recursive resolver: The DNS server that takes your searches/requests such as "google.com" and resolves it into an IP.
    - (It resolves it by contacting the appropriate servers.Each network can chose which recursive resolver to use..)

`Root DNS Server`

- Keeps track of top-level domains and the IP adddresses of their servers. (e.g .com, .org, .net)

The root sends a `NS` record which is a request to the top level domain. This stores a name-server which is also a DNS. This needs to be turned into an IP so it sends a request to an `A` record which finds the IP for the designated DNS.

The top level domain `NS` record keeps track of "name-servers" for each domain registration.

`Load balancing`

- Lets imagine we have a server for amazon.com. Its located on 3.3.3.3. Amazon has millions of users using the site at the same time. There are only limited ports. The way to make these requests work is the load balancing server sends it off to other amazon servers such as 3.3.3.4 etc...

In order to scale for certain days where theres too many users hitting the load balancer server at the same time overflowing, we have multiple `Load balancing` servers.