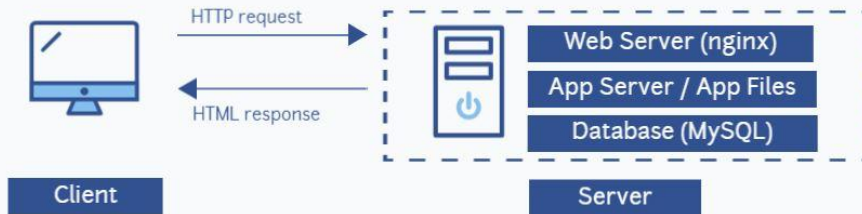- What is a server:
  A server is a device, a virtual device or a computer program that provides functionality for other programs or devices (clients).
- What is the role of the domain name:
  Domain names serve to identify Internet resources, such as computers, networks, and services, with a text-based label that is easier to memorize than the numerical addresses used in the Internet protocols.
- What type of DNS record www is in www.foobar.com:
  It's a CNAME (Canonical Name Record), this means that maps one domain name to another.
- What is the role of the web server:
  Is serves web pages to clients over the HTTP protocol
- What is the role of the application server:
  It acts as a host for the business logic while facilitating access to and performance of the business application.
- What is the role of the database:
  Stores and organizes data, for ease of use and retrieval
- What is the server using to communicate with the computer of the user requesting the website:
  HTTP protocol.
- SPOF:
  Having only one server in case of server failure everything fails.
- Downtime when maintenance needed (like deploying new code web server needs to be restarted)
  Having only one server, maintenance implies downtime
- Cannot scale if too much incoming traffic
  With only one server and no load balancer there is no way to scale if too much incoming traffic.

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When a user wants to access a website, they actually want to access a server that hosts the website. Each device connected to the internet has a unique address known as IP address. Of course, it's easier to remember the name of a site than its IP address, but here's when the DNS helps us: DNS associates the domain names with their IP addresses. So, when the user types www.foobar.com (for example), the web browser will look in its cache memory if the domain name is associated with an IP address. If so, it retrieves the IP address and connects to the server with that IP address, but if it doesn't, it looks into the OS cache. Again, if it works, the IP address is retrieved, but if it doesn't, the OS calls the resolver server (usually the internet service provider). If the resolver can't deliver the IP address, it'll ask the root server, which knows where to locate the .COM TLD server (TLD stands for Top-Level Domain). The TLD server gives the resolver the Authoritative name servers addresses (for instance, ns1.www.foobar.com, ns2.www.foobar.com, ns3.www.foobar.com, etc), and in this point one of these addresses will be the IP address that's been looked for. The way it's made backwards and then the web browser does a HTTP request to the IP address.

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