0-Simple-Web-Infrastructure

Server is a computer which provides data or services to other computers via a network. It can be physical or virtual. A computer can be a server but doesn't have the same processing speed and request handling capability as a server.

Domain name replaces the long numeric ip addresses into understandable alphabetical names.

Web server is a software and hardware that uses HTTP(Hypertext transfer Protocol) and other protocols to respond to client requests made over the World Wide Web. The main job of a web server is to display website content through storing, processing and delivering web pages to users. Web servers also support SMTP(simple mail transfer protocol) and FTP(file transfer protocol) used for email, file transfer and storage.

What type of DNS record `www` is in `www.foobar.com` ?
DNS record is a database record used to map a URL to an IP address
Www is a canonical name.
DNA record of www belongs to a subdomain of the www.foobar.com

Application server main job is to provide its client with access to what commonly called business logic, which generates dynamic content. Application servers act as intermediate players between web servers and database servers.

Database is a collection of information that is organized so that it can easily be accessed, managed and updated.

What is the server using to communicate with the computer of the user requesting the website?
The server is using the HTTP protocol which enables the transfer of resource and data such as HTML documents between the server and the client. The client (browser) is the one who always initiates the request to the server of data such HTML, CSS files. Once the request is received by the server it serves the document as requested by the client.

Issues with the simple web infrastructure
- SPOF (Single Point Of Failure): one of the problems within the simple web-infrastructure is if a single component malfunctioned or stopped working the whole system will collapse so the client can't reach the server.
- Whenever some structure in the system needs to be repaired, the whole system has to be shut down while the maintenance is done.
- Overload of traffic can risk the server capacity. It's because there is no possibility to scale the service with the additional servers as backup which leads to possible breakdowns of the webpage and client request as traffic overpasses server capacity.