When a user/client hits https://techtonicgroup.com, the client is making request of the server, where this website is located, using the protocal "https". It begins by searching the DNS for the IP address of the server hosting the website. After the IP is found, the client requests the server for the webpage (in this case the default page) from the server, which then sends the requested page to the client. After receiving the data, the client's browser/app renders the codes and display the data as a webpage on the client's device.

When a client makes a request from a server, it also sends its IP address. This address is used by the server to send back the requested data, which is ussually in packets and reassembled by the client. The data travels through the internet wireless and by cables/wires from router to router until it reaches the IP address. The client and server IP addresses are unique so that they can find each other on the internet. Because a the http protocal has already been established as the way to communicate with each other, the client and server are able to send data back and forth.

The code rendered by browsers are HTML, CSS and javascript. Technically, the javascript code doesn't get rendered. It is interpreted by a javascript engine and the DOM is modified according to the javascript code and then the changes are rendered. Depending on the browser and its version, some features of the three languages may not be supported and won't be rendered correctly or if at all.

The server-side code's main function is to process and "serve" the data requested or sent by the client. Processing includes such things as retrieving data from or storing data into a database, validating data from the client, and security authentication. "Serving" means sending to the client the data requested by the client.

The client-side code's main function is to instruct the rendering engines how to display the data on the client device in ways that are readable, user-friendly, functional and serve the goal(s) of the website owner. The display of data is for such things as user viewing, interactions and communicating.

Only one instance of the client-side assets are created for each client, although the assets themselves may be dynamically altered as the user interacts with the webpage. Each time a client requests for a webpage, the server delivers a new instance of the client-side assets, thus assuring that the assets are the most recent and up to date. If each client is counted as an instance, then there can be as many instances as there are clients conneted to the server.

At any given time, there are as many instances of the server-side code available as can be allowed by the processing power of the server without crashing. The availability of many instances at any given time ensures that newclients will not have to wait for the processing of previous clients. Although many instances are available, each client will go through the same server-side code so that there is consistency across clients.

Runtime is the beginning of execution of a program until its termination. This is the time when the computer program is executing or running.

Only one instance of each database connected to the server application is created. Although many instances of a database can be created, it would demand too much overhead and slow down the system, making it very inefficient. Only one instance of a database is needed because many users can access the same instance.