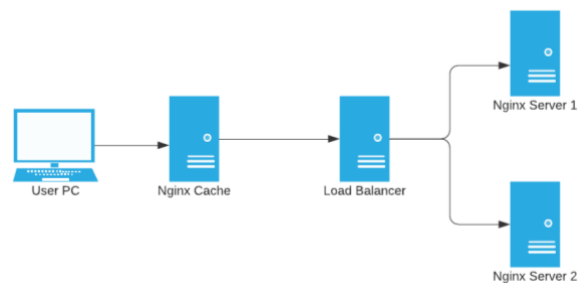


For this homework, I chose to keep things very uniform. I used Nginx for the webserver, cache, and load balancer. I figured that by keeping things the same, they would operate together relatively seamlessly. Prior research also told me that Nginx is a webserver with capabilities of handling usage as a reverse proxy, load balancer, and cache. Prior to choosing Nginx, I looked at Varnish usage for a cache, and Apache for a webserver. I'm sure these would work well, but it made the most sense to use software from the same provider throughout the duration.



Above is my network topology. The user PC is the machine accessing the webpage. The next link to that is my caching server, its position here reduces the total transaction time to provide information to the user. Considering the situation where the caching server does not have the data stored, it would reach the load balancer, which can be thought of as a traffic cop, directing data where to travel. This topology made the most sense in my mind and reduces traffic overflow.

The internet was not designed for the throughput it receives today, which is why all of these technologies play a crucial role. For a network like this, it doesn't make much of a difference, but on a larger, production scale it changes everything.