Nginx Report

The Nginx library is a web server that can be used as a reverse proxy, load balancer, and HTTP cache. This library is widely used with the web server's technology serving almost 1/4th of the entire internet. For our project, we use the nginx web server as a reverse proxy and load balancer for our frontend and backend servers.

First, we initialize the conditions for the core nginx server. For example, in our server we include "worker_processes 1". Nginx takes these configurations and initializes the core server as seen here: https://github.com/nginx/nginx/blob/master/src/core/nginx.c#L1086. After initializing the core server, we indicate to nginx that we want the maximum amount of connections to the server to be 1024 through our code "worker connections 1024". Nginx takes this and initializes its event handling functionality through https://github.com/nginx/nginx/blob/master/src/event/ngx_event.c#L467. Afterwards, since we configured the server to be used as a reverse proxy, first we set up where the nginx web server will be listening. In our case, the nginx server listens at port 80 and the code used to set up this functionality can be found at https://github.com/nginx/nginx/blob/master/src/http/ngx_http.c#L1627. Finally, we set up our reverse proxy where depending on whether "/api" is in the url_path, it will indicate which server will handle the incoming HTTP request. For the location part, the code is located at https://github.com/nginx/nginx/blob/master/src/http/modules/ngx_http_proxy_module.c#L4099. In order to indicate where nginx will pass the incoming http request, we use proxy_pass and the code can be found at https://github.com/nginx/nginx/blob/master/src/http/modules/ngx_http_proxy_module.c#L4099. The above code is used by our project in order to set up a reverse proxy at port 80 and create a more scalable web server with defined constraints such as worker connections and processes.

The license attached to our project is the BSD license as we are using our project as an open-source project. If our project was closed-source, there would be a different commercial license. The BSD license places minimal restrictions on the distribution of our software meaning we are free to publish the work we've done with the contribution of the nginx library.