1. Update the package manager:

sudo apt update

1. Install the required dependencies for building the GeoIP module:

sudo apt install libmaxminddb0 libmaxminddb-dev libgeoip1 libgeoip-dev geoipupdate libtool automake autoconf make build-essential

1. Download and extract the Nginx source code from the official website:

wget http://nginx.org/download/nginx-1.20.1.tar.gz tar zxvf nginx-1.20.1.tar.gz cd nginx-1.20.1

1. Download and extract the latest version of the GeoIP module from the GitHub repository:

wget https://github.com/leev/ngx\_http\_geoip2\_module/archive/master.zip unzip master.zip

1. Configure Nginx with the GeoIP module using the following command:

./configure --with-compat --add-dynamic-module=./ngx\_http\_geoip2\_module-master

1. Build the GeoIP module by running the following command:

make modules

make install

1. Copy the resulting **.so** file to the Nginx modules directory:

sudo cp objs/ngx\_http\_geoip2\_module.so /usr/local/nginx/modules/

1. Update the Nginx configuration to include the GeoIP module. Open the Nginx configuration file in a text editor, for example:

sudo nano /usr/local/nginx/nginx.conf

1. Add the following line in the **http** block of the configuration file, just after the **log\_format** directive:

load\_module /usr/local/nginx/modules/ngx\_http\_geoip2\_module.so;

10. Add the following lines in the **http** block of the configuration file, just after the **log\_format** directive:

geoip2 /path/to/GeoLite2-City.mmdb { auto\_reload 60m; $geoip2\_data\_city\_name city names en; $geoip2\_data\_region\_name subdivisions 0 names en; $geoip2\_data\_country\_name country names en; }

Replace **/path/to/GeoLite2-City.mmdb** with the path to the GeoIP2 City database file on your system.

1. Save and close the configuration file.
2. Test the Nginx configuration:

sudo nginx -t

If there are no errors, reload Nginx to apply the changes:

sudo systemctl reload nginx

That's it! Nginx should now be configured to use the GeoIP module to extract the location details of the host in the access logs.