<https://dokov.bg/servers/nginx-geoip2-ubuntu/>

# Nginx with GeoIP2 on Ubuntu

In the web you can find a lot of tutorials how to use the GeoIP module for nginx but Maxmind - the company that is providing the database for countries and cities is deprecating their old database format **dat** and replacing it with a new format - **mmdb**. The nginx setup for this new format is different and requires building the module from source since there is no official support for nginx provided by the company as stated in their [downloads](https://dev.maxmind.com/geoip/geoip2/downloadable/) page. I couldn't find a super easy guide for the new **GeoIP2** so here I am putting all the steps in case I need to do it again or if someone else is having issues with the other guides online. The guide is for Ubuntu but can be easily addapted to any Debian based systems.

### Download the nginx source and the geoip2 module.

You may want to update the link to the current version of nginx that you have installed

wget http://nginx.org/download/nginx-1.16.1.tar.gz

tar zxvf nginx-1.16.1.tar.gz

wget https://github.com/leev/ngx\_http\_geoip2\_module/archive/master.tar.gz ngx\_http\_geoip2\_module.tar.gz

tar zxvf ngx\_http\_geoip2\_module.tar.gz

### Install Maxmind's ppa and the libraries required to build nginx

sudo add-apt-repository ppa:maxmind/ppa

apt update

apt install libmaxminddb0 libmaxminddb-dev mmdb-bin geoipupdate

apt install libpcre3 libpcre3-dev zlib1g zlib1g-dev libssl-dev

### Regularly update the geoip2 database

Set a cronjob to update the geoip database.

58 13 \* \* 5 /usr/local/bin/geoipupdate >> /dev/null **2**>**&1**

And it is good to run the update now so you have the latest data right away.

geoipupdate

### Build nginx with the geoip2 module

cd nginx-1.16.1

./configure --add-dynamic-module=../ngx\_http\_geoip2\_module-master $(nginx -V) --with-compat

make

Make sure to include --with-compat while executing configure because when you try to install the module you may get the following error:  
nginx: [emerg] module is not binary compatible

### Install the new dynamic module in nginx

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

echo "load\_module modules/ngx\_http\_geoip2\_module.so;" > /etc/nginx/modules-available/mod-http-geoip2.conf

ln -s /etc/nginx/modules-available/mod-http-geoip2.conf /etc/nginx/modules-enabled/60-mod-http-geoip2.conf

### Setup nginx

In /etc/nginx/nginx.conf in http section add the following code to enable the geoip2 and automatically reload the databases if needed and pass the data to php with fastcgi params.

geoip2 /usr/share/GeoIP/GeoLite2-Country.mmdb {

auto\_reload 60m;

$geoip2\_metadata\_country\_build metadata build\_epoch;

$geoip2\_data\_country\_code country iso\_code;

$geoip2\_data\_country\_name country names en;

}

geoip2 /usr/share/GeoIP/GeoLite2-City.mmdb {

auto\_reload 60m;

$geoip2\_metadata\_city\_build metadata build\_epoch;

$geoip2\_data\_city\_name city names en;

}

fastcgi\_param COUNTRY\_CODE $geoip2\_data\_country\_code;

fastcgi\_param COUNTRY\_NAME $geoip2\_data\_country\_name;

fastcgi\_param CITY\_NAME $geoip2\_data\_city\_name;

### How to block countries

Again in /etc/nginx/nginx.conf in http section using a map with allowed/disallowed countries define a variable that you can use in the vhosts files.

map $geoip2\_data\_country\_code $domain\_xyz\_allowed\_country {

default yes;

BG no;

}

In the **vhost configuration** determine what to do if the country is not allowed. Usually block it.

location / {

if ($domain\_xyz\_allowed\_country = no) {

return 444;

}

}

### Redirect to country-specific domain

Similar logic could be used for location redirect. For example if you have multiple domains for different countries (google.com for USA, google.bg for Bulgaria, etc). To setup the dedirect use the $geoip2\_data\_country\_code variable to decide whether or where the visitor should be redirected.

In the **vhost configuration** of the main domain (e.g. google.com)

location / {

if ($geoip2\_data\_country\_code = BG) {

return 301 https://google.bg$request\_uri;

}

}

In [Servers](https://dokov.bg/servers/) Nov 6, 2019