

### Install with apt, yum

```
#for ubuntu
sudo apt-get update -y & sudo apt-get
install -y nginx & sudo
systemctl enable nginx & sudo
systemctl start nginx
#for Centos
sudo yum update -y & sudo yum
install -y epel-release & sudo yum
install -y nginx & sudo systemctl
enable nginx & sudo systemctl start
nginx
```

### Creating a Virtual Hosts

```
# make copy of
/etc/nginx/nginx.conf and begin
edit current conf file
server{
listen 80;
server_name 192.168.1.1
root /sites/demo
}
```

### file types/ mime.types

```
#in http section
include mime.types;
types{
text/css css;
text/http http;
}
```

### Locations

```
#Preferential prefix match
location ^~ /hello {
return 200 'Hello';
}
#exact match
location = /hello {
```

### Locations (cont)

```
return 200 'Hello';
}
#regex match - case sensitive
location ~ /hello[1-9] {
return 200 'Hello';
}
#regex match - case insensitive
location ~* /hello[1-9] {
return 200 'Hello';
}
```

### buffers and Timeouts

```
#Buffer size for POST submissions
client_body_buffer_size 10K;
client_max_body_size 8m;
#Buffer size for HEADERS
client_header_buffer_size 1K;
#MAX time to receive client
headers/body
client_body_timeout 12;
client_header_timeout 12;
#MAX time to keep a connection open
for
keepalive_timeout 15;
#MAX time for client
accept/receive a response
send_timeout 10;
#skip buffering for static files
sendfile 10;
#optimize sendfile packets
tcp_nopush 10;
```

### Source code build

```
sudo apt-get update -y
wget
http://nginx.org/download/nginx\_cur\_ver.tar.gz
tar -zxvf nginx_cur_ver.tar.gz
#for ubuntu#
sudo apt-get install -y
build-essential #install builder
sudo apt-get install -y libpcre3
libpcre3-dev zlib1g zlib1g-dev
libssl-dev
#for centos#
sudo yum install -y groupinstall
"Development Tools"
sudo yum install -y pcre pcre-devel
zlib zlib-devel openssl openssl-
devel
# in unpacked location
./configure --help
sudo ./configure --sbin-
path=/usr/bin/nginx --conf-
path=/etc/nginx/nginx.conf --
error-
log-path=/var/log/nginx/error.log -
-http-log-
path=/var/log/nginx/access.log --
with-pcre --
pid-path=/var/run/nginx.pid --
with-http_ssl_module
sudo make & sudo make install &
nginx -V
```

### Variables

```
set $weekend 'No';
if ($date_local ~
'Saturday|Sunday'){
set $weekend 'Yes';}
$host, $http_host, $https,
$request_method, $request_uri,
$scheme, $server_name,
$server_port, $args, $arg_name,
$uri
```



### Rewrites & Redirects

```
# Simple redirect
location /logo{
    return 307 /logo.png;
}

#simple rewrite
rewrite ^/user/(\w+)/ (something)
/greet/$1 $2;
rewrite ^/rewriteme/(.*)$ /$1 last;
```

### try\_files

```
root /var/www/main;
try_files $uri $uri.html $uri/
/fallback/index.html;
```

### dynamic modules

```
load_module
modules/nginx_http_image_filter_module.so;
http{server{location=logo.png{image_filter
rotate 180;}}}
```

### headers&expires

```
location ~* \.(jpg|png|js) {
access_log off;
add_header Cache-Control public;
add_header Pragma public;
add_header Vary Accept-Encoding;
expires 1M;}
```

### Adding nginx service if source-code

```
Create file
/lib/systemd/system/nginx.service
add and edit for current passes:
[Unit]
Description=The NGINX HTTP and reverse
proxy server
```

### Adding nginx service if source-code (cont)

```
After=syslog.target
network.target remote-fs.target
nss-lookup.target
[Service]
Type=forking
PIDFile=/run/nginx.pid
ExecStartPre=/usr/sbin/nginx -t
ExecStart=/usr/sbin/nginx
ExecReload=/usr/sbin/nginx -s
reload
ExecStop=/bin/kill -s QUIT
$MAINPID
PrivateTmp=true
[Install]
WantedBy=multi-user.target
```

<https://www.nginx.com/resources/wiki/start/topics/examples/systemd/>

### PHP Processing

```
sudo apt-get update -y & sudo
apt-get -y install php-fpm &
sudo enable php7.2-fpm
user www-data
server{
index index.php index.html;
location / {
try_files $uri $uri/ =404;
}
location ~\.php$ {
#pass php request to the
php-fpm service(fastcgi)
include fastcgi.conf
fastcgi_pass
unix:/run/php/php7.2-fpm.sock
}
}
```

### worker\_processes

```
worker_processes auto;
events {
worker_connections 1024;}
# yuo can test
connection_per_core limit by
'ulimit -n' command
pid /var/run/new_nginx.pid;
```

### Compressed Responses with gzip

```
http{
gzip on;
gzip_comp_level 4;
gzip_types /text/css
/text/javascript;}
```

### FASTCGI Cache

```
#configure microcache (fastcgi)
fastcgi_cache_path
/tmp/nginx/cache levels=1:2
keys_zone=ZONE_1:100m
inactive=60m;
fastcgi_cache_key
"$scheme$request_method$host$req
uest_uri";
add_header X-Cache
$upstream_cache_status;
location ~\.php$ {
include fastcgi.conf;
fastcgi_pass
unix:/run/php/php7.2-fpm.sock;
#enabling cahe
fastcgi_cahe ZONE_1;
fastcgi_cahe_valid 200 60m;
fastcgi_cahe_valid 404 10m;
}
```



### LoadBallancing

```
upstream balanser {
    server 192.168.1.1:80;
    server 192.168.1.2:80;}

server {
    listen 192.168.1.3:80;
    server_name your_site.com;
    error_log
/var/log/nginx/your_site.com_error.log;
    location / {
        proxy_pass http://balancer;
    }
}

ip_hash; # freeze connection from one host to
one server

least_conn; # connection to server with
less-loading
```

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Page 3 of 3.

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