

** Установить Nginx и настроить его на работу с PHP-FPM.*

```
sudo apt install nginx
```

```
sudo apt install php8.1-fpm
```

```
cd sites-enabled/
```

```
sudo nano default
```

```
# pass PHP scripts to FastCGI server
#
location ~ \.php$ {
    include snippets/fastcgi-php.conf;
#
#   # With php-fpm (or other unix sockets):
    fastcgi_pass unix:/run/php/php8.1-fpm.sock;
#   # With php-cgi (or other tcp sockets):
#   fastcgi_pass 127.0.0.1:9000;
}
```

```
cd /var/www/html
```

```
sudo nano info.php
```

```
<?php
```

```
phpinfo();
```

```
?>
```

```
sudo systemctl reload nginx
```


** Установить Apache. Настроить обработку PHP. Добиться одновременной работы с Nginx.*

```
sudo apt install apache2
```

```
cd /etc/apache2
```

```
sudo nano ports.conf
```

```
Listen 8080
```

```
<IfModule ssl_module>
```

```
Listen 443
```

```
</IfModule>
```

```
<IfModule mod_gnutls.c>
```

```
Listen 443
```

```
</IfModule>
```

```
sudo nano 000-default.conf
```

```
<VirtualHost *:8080>
```

```
# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
#ServerName www.example.com
```

```
ServerAdmin webmaster@localhost
```

```
DocumentRoot /var/www/html
```

```
# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
# error, crit, alert, emerg.
```

```
# It is also possible to configure the loglevel for particular
# modules, e.g.
```

```
#LogLevel info ssl:warn
```

```
ErrorLog ${APACHE_LOG_DIR}/error.log
```

```
CustomLog ${APACHE_LOG_DIR}/access.log combined
```

```
# For most configuration files from conf-available/, which are
```

```
# enabled or disabled at a global level, it is possible to
```

```
# include a line for only one particular virtual host. For example the
```

```
# following line enables the CGI configuration for this host only
```

```
# after it has been globally disabled with "a2disconf".
```

```
#Include conf-available/serve-cgi-bin.conf
```

```
</VirtualHost>
```

```
location / {
```

```
    proxy_pass http://localhost:8080;
```

```
    proxy_set_header Host $host;
```

```
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
```

```
    proxy_set_header X-Real-IP $remote_addr;
```

```
}
```

```
location ~* ^.+.(jpg|jpeg|gif|png|ico|css|zip|pdf|txt|tar|js)$ {
```

```
}
```

**Настроить схему обратного прокси для Nginx (динамика - на Apache).*

```
sudo nano /etc/nginx/sites-available/default
```

```
location / {  
    proxy_pass http://localhost:8080;  
    proxy_set_header Host $host;  
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;  
    proxy_set_header X-Real-IP $remote_addr;  
}
```

```
sudo systemctl reload nginx
```

**Установить MySQL. Создать новую базу данных и таблицу в ней.*

```
sudo apt install mysql-server-8.0
```

```
sudo mysql
```

```
mysql> CREATE DATABASE mydatabase;
```

Query OK, 1 row affected (0,01 sec)

```
mysql> USE mydatabase;
```

Database changed

```
mysql> CREATE TABLE test(i INT);
```

Query OK, 0 rows affected (0,02 sec)

```
mysql> INSERT INTO test (i) VALUES (1),(2),(3),(4);
```

Query OK, 4 rows affected (0,01 sec)

Records: 4 Duplicates: 0 Warnings: 0

```
mysql> SELECT * FROM test;
```

```
+-----+  
| i |  
+-----+  
| 1 |  
| 2 |
```

```
| 3 |  
| 4 |
```

```
+-----+
```

4 rows in set (0,00 sec)

5 Установить пакет phpmyadmin и запустить его веб-интерфейс для управления MySQL.

- `sudo apt-get install phpmyadmin`

Во время установки выбираем конфигурацию на apache2 и заводим пароль для учетки phpmyadmin.
После установки заходим на *localhost/phpmyadmin*

6. Настроить схему балансировки трафика между несколькими серверами Apache на стороне Nginx с помощью модуля ngx_http_upstream_module.

`sudo touch /etc/nginx/conf.d/upstream.conf` Далее в созданном файле upstream.conf настраиваем балансировщик для нескольких серверов Apache:

```
upstream backend {  
    server apache1.ru:80;  
    server apache2.ru:80;  
    server apache3.ru:80;  
}
```

`sudo nano /etc/nginx/sites-available/default`

Меняем директиву proxy_pass:

```
location / {  
    # proxy_pass http://localhost:8080;  
    proxy_pass http://backend;  
    proxy_set_header Host $host;  
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;  
    proxy_set_header X-Real-IP $remote_addr;  
}
```

`sudo systemctl reload nginx`