

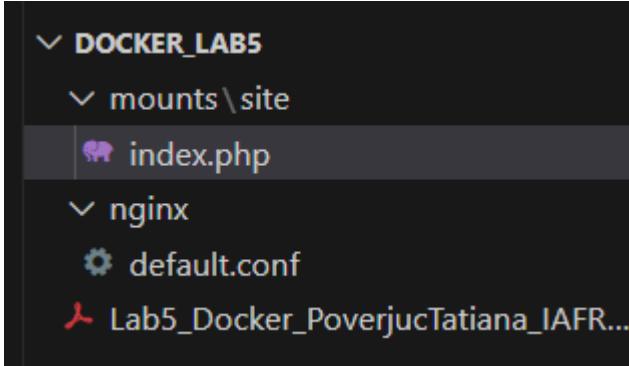
Отчет Лабораторной работы №5

1) Цель работы:

Освоить настройку взаимодействия между Docker-контейнерами, развертывание PHP-сайта с Nginx и PHP-FPM и использование томов для хранения файлов.

2) Ход работы:

a) Настройка Ngnix



b) Запуск и тестирование контейнеров

i) Создание сети для контейнеров

```
PS Q:\uni\docker\docker_lab5> docker network create internal
Error response from daemon: network with name internal already exists
```

ii) Создание backend контейнера

```
PS Q:\uni\docker\docker_lab5> docker run -d --name backend --network internal -v "$(pwd)/mounts/site:/var/www/html" php:7.4-fpm
>>
Unable to find image 'php:7.4-fpm' locally
7.4-fpm: Pulling from library/php
79b1a1b78461: Pull complete
93346a3f46bc: Pull complete
156740b07ef8: Pull complete
a8e3b94fe6c1: Pull complete
a603fa5e3b41: Pull complete
972155ae644b: Pull complete
b922b67ca6b: Pull complete
c428f1a49423: Pull complete
6137f893bda6: Pull complete
fb5a4c8af82f: Pull complete
Digest: sha256:3ac7c8c74b2b047c7cb273469d74fc0d59b857aa44043e6ea6a0084372811d5b
Status: Downloaded newer image for php:7.4-fpm
4562789a4aae4653949c5a33aca37c172cde2c259cc1d4f5c255381de131a642
PS Q:\uni\docker\docker_lab5>
```

iii) Создание frontend контейнера

```
PS Q:\uni\docker\docker_lab5> docker run -d --name frontend --network internal -p 80:80 -v "$(pwd)/mounts/site:/var/www/html" -v "$(pwd)/nginx/default.conf:/etc/nginx/conf.d/default.conf" nginx:1.23-alpine
>>
ae0f654b87ff4cf0a94a9a09ab4ac9425c02f8c7b04a6a99338142103396e19
```

c) Проверка работы

COLUMN	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
ae0f654b87ff	nginx:1.23-alpine	/docker-entrypoint..."	About a minute ago	Up About a minute	0.0.0.0:80->80/tcp, [::]:80->80/tcp	frontend
4562789a4aae	php:7.4-fpm	"docker-php-entrypoi..."	9 minutes ago	Up 9 minutes	9000/tcp	backend

```
PS Q:\uni\docker\docker_lab5> docker ps
```

PHP Version 7.4.33

System	Linux 4562789a4aae 6.6.87.2-microsoft-standard-WSL2 #1 SMP PREEMPT_DYNAMIC Thu Jun 5 18:30:46 UTC 2025 x86_64
Build Date	Nov 15 2022 06:05:32
Configure Command	./configure '--build=x86_64-linux-gnu' '--with-config-file-path=/usr/local/etc/php' '--with-config-file-scan-dir=/usr/local/etc/php/conf.d' '--enable-option-checking=fatal' '--with-mhash' '--enable-ftp' '--enable-mbstring' '--enable-mysqlind' '--with-password-argon2' '--with-sodium-shared' '--with-pdo-sqlite=usr' '--with-sqlite3=usr' '--with-curl' '--with-iconv' '--with-openssl' '--with-readline' '--with-zlib' '--disable-cgi' '--enable-fpm' '--with-fpm-user=www-data' '--with-fpm-group=www-data' 'build_alias=x86_64-linux-gnu'
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/usr/local/etc/php
Loaded Configuration File	(none)
Scan this dir for additional .ini files	/usr/local/etc/php/conf.d
Additional .ini files parsed	/usr/local/etc/php/conf.d/docker-php-ext-sodium.ini
PHP API	20190902
PHP Extension	20190902
Zend Extension	320190902
Zend Extension Build	API/320190902.NTS
PHP Extension Build	API/20190902.NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	provided by mbstring
IPv6 Support	enabled
DTrace Support	disabled
Registered PHP Streams	https, ftps, compress_zlib, php, file, glob, data, http, ftp, phar
Registered Stream Socket Transports	tcp, udp, unix, udg, ssl, tls, tlsv1.0, tlsv1.1, tlsv1.2, tlsv1.3
Registered Stream Filters	zlib.*;convert.iconv.*;string.rot13;string.toupper;string.tolower;string.strip_tags;convert.*;consumed;dechunk

```
PS Q:\uni\docker\docker_lab5> docker logs frontend
2025/11/09 19:27:52 [notice] 1#1: start worker process 32
2025/11/09 19:27:52 [notice] 1#1: start worker process 33
2025/11/09 19:27:52 [notice] 1#1: start worker process 34
2025/11/09 19:27:52 [notice] 1#1: start worker process 35
2025/11/09 19:27:52 [notice] 1#1: start worker process 36
2025/11/09 19:27:52 [notice] 1#1: start worker process 37
2025/11/09 19:27:52 [notice] 1#1: start worker process 38
2025/11/09 19:27:52 [notice] 1#1: start worker process 39
2025/11/09 19:27:52 [notice] 1#1: start worker process 40
172.18.0.1 - - [09/Nov/2025:19:27:57 +0000] "GET / HTTP/1.1" 200 75177 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/138.0.0.0 Safari/537.36 OPR/122.0.0.0 (Edition ASUS)" "
```

- PS Q:\uni\docker\docker_lab5> docker logs backend


```
[09-Nov-2025 19:12:06] NOTICE: fpm is running, pid 1
[09-Nov-2025 19:12:06] NOTICE: ready to handle connections
172.18.0.3 - 09/Nov/2025:19:19:06 +0000 "GET /index.php" 404
172.18.0.3 - 09/Nov/2025:19:27:57 +0000 "GET /index.php" 200
```
- PS Q:\uni\docker\docker_lab5>

- 3) Ссылка на репозиторий: <https://github.com/tpwrzz/docker-lab5>
- 4) Вывод

В ходе работы был развернут PHP-сайт с использованием двух контейнеров: Nginx и PHP-FPM. Настроено взаимодействие контейнеров через внутреннюю сеть, смонтированы тома для файлов сайта. Nginx корректно обрабатывает PHP-запросы через PHP-FPM. Работа показала, что разделение веб-сервера и интерпретатора PHP повышает управляемость и масштабируемость приложения.