

Задание 1.

Развернуть и настроить сервер с Nginx, MySQL, PHP (стек LEMP)

Задание 2.

Установить и настроить новое тестовое приложение Laravel на сервере

Задание 3.

Развернуть и настроить сервер с Nginx, MySQL, PHP (стек LEMP) в Docker

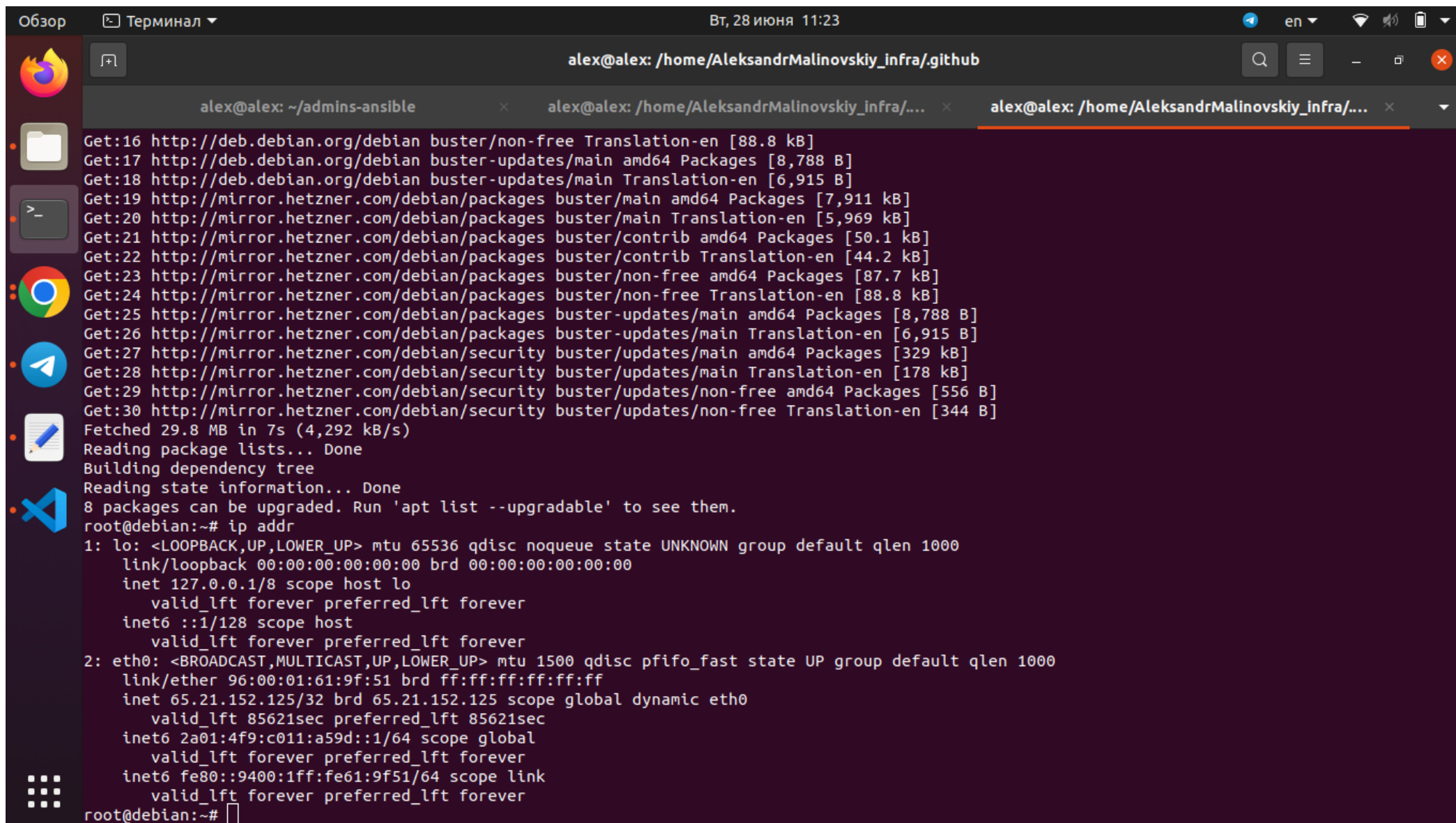
Задание 4.

Настройка Laravel, Nginx и MySQL с Docker Compose

Задание 1.

Развернуть и настроить сервер с Nginx, MySQL, PHP (стек LEMP).

Ip сервера

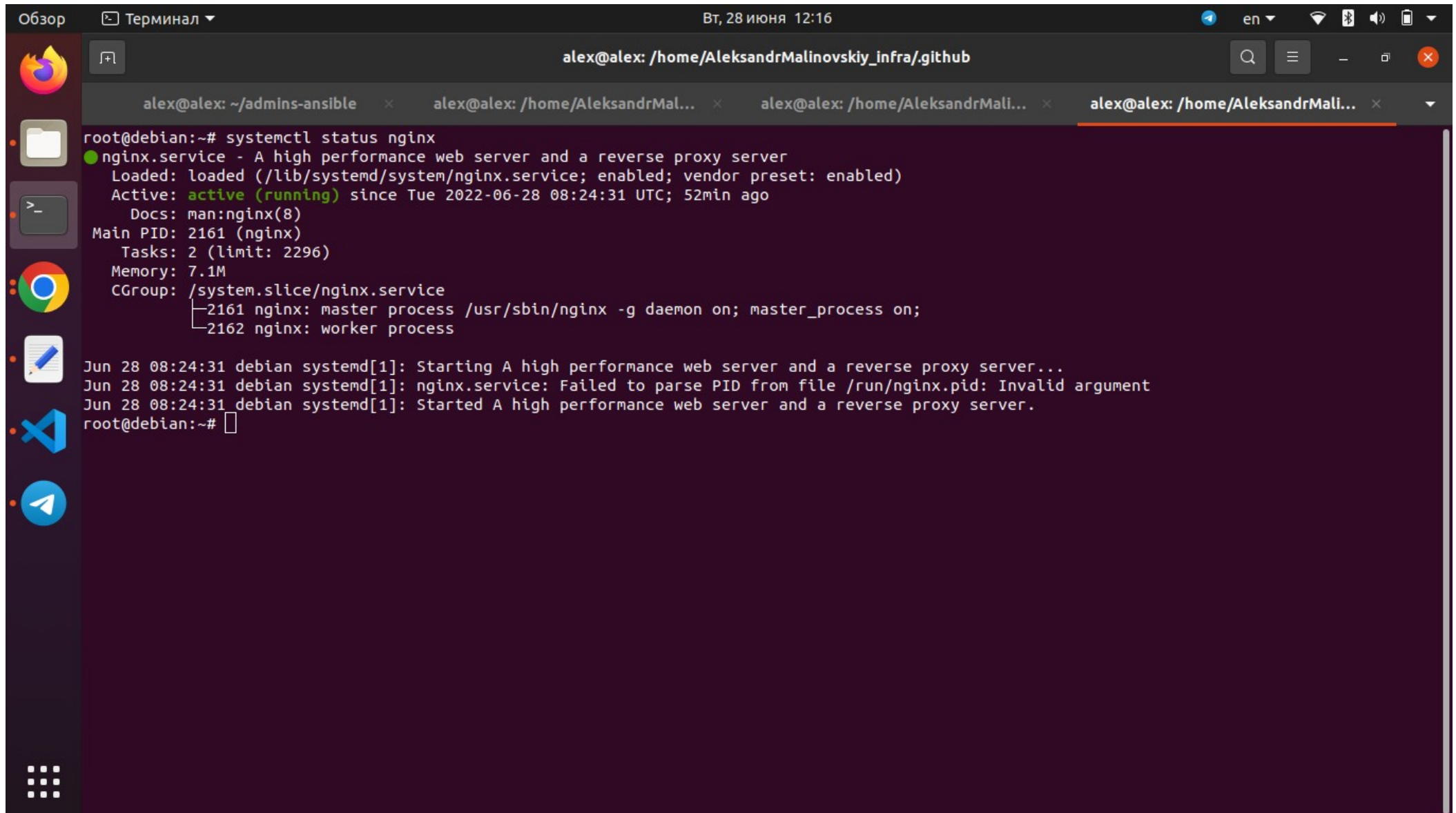


```
Обзор Терминал Вт, 28 июня 11:23
alex@alex: /home/AleksandrMalinovskiy_infra/github

alex@alex: ~/admins-ansible
alex@alex: /home/AleksandrMalinovskiy_infra/...
alex@alex: /home/AleksandrMalinovskiy_infra/...

Get:16 http://deb.debian.org/debian buster/non-free Translation-en [88.8 kB]
Get:17 http://deb.debian.org/debian buster-updates/main amd64 Packages [8,788 B]
Get:18 http://deb.debian.org/debian buster-updates/main Translation-en [6,915 B]
Get:19 http://mirror.hetzner.com/debian/packages buster/main amd64 Packages [7,911 kB]
Get:20 http://mirror.hetzner.com/debian/packages buster/main Translation-en [5,969 kB]
Get:21 http://mirror.hetzner.com/debian/packages buster/contrib amd64 Packages [50.1 kB]
Get:22 http://mirror.hetzner.com/debian/packages buster/contrib Translation-en [44.2 kB]
Get:23 http://mirror.hetzner.com/debian/packages buster/non-free amd64 Packages [87.7 kB]
Get:24 http://mirror.hetzner.com/debian/packages buster/non-free Translation-en [88.8 kB]
Get:25 http://mirror.hetzner.com/debian/packages buster-updates/main amd64 Packages [8,788 B]
Get:26 http://mirror.hetzner.com/debian/packages buster-updates/main Translation-en [6,915 B]
Get:27 http://mirror.hetzner.com/debian/security buster/updates/main amd64 Packages [329 kB]
Get:28 http://mirror.hetzner.com/debian/security buster/updates/main Translation-en [178 kB]
Get:29 http://mirror.hetzner.com/debian/security buster/updates/non-free amd64 Packages [556 B]
Get:30 http://mirror.hetzner.com/debian/security buster/updates/non-free Translation-en [344 B]
Fetched 29.8 MB in 7s (4,292 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
8 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@debian:~# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 96:00:01:61:9f:51 brd ff:ff:ff:ff:ff:ff
    inet 65.21.152.125/32 brd 65.21.152.125 scope global dynamic eth0
        valid_lft 85621sec preferred_lft 85621sec
    inet6 2a01:4f9:c011:a59d::1/64 scope global
        valid_lft forever preferred_lft forever
    inet6 fe80::9400:1ff:fe61:9f51/64 scope link
        valid_lft forever preferred_lft forever
root@debian:~#
```

Установка веб-сервера Nginx

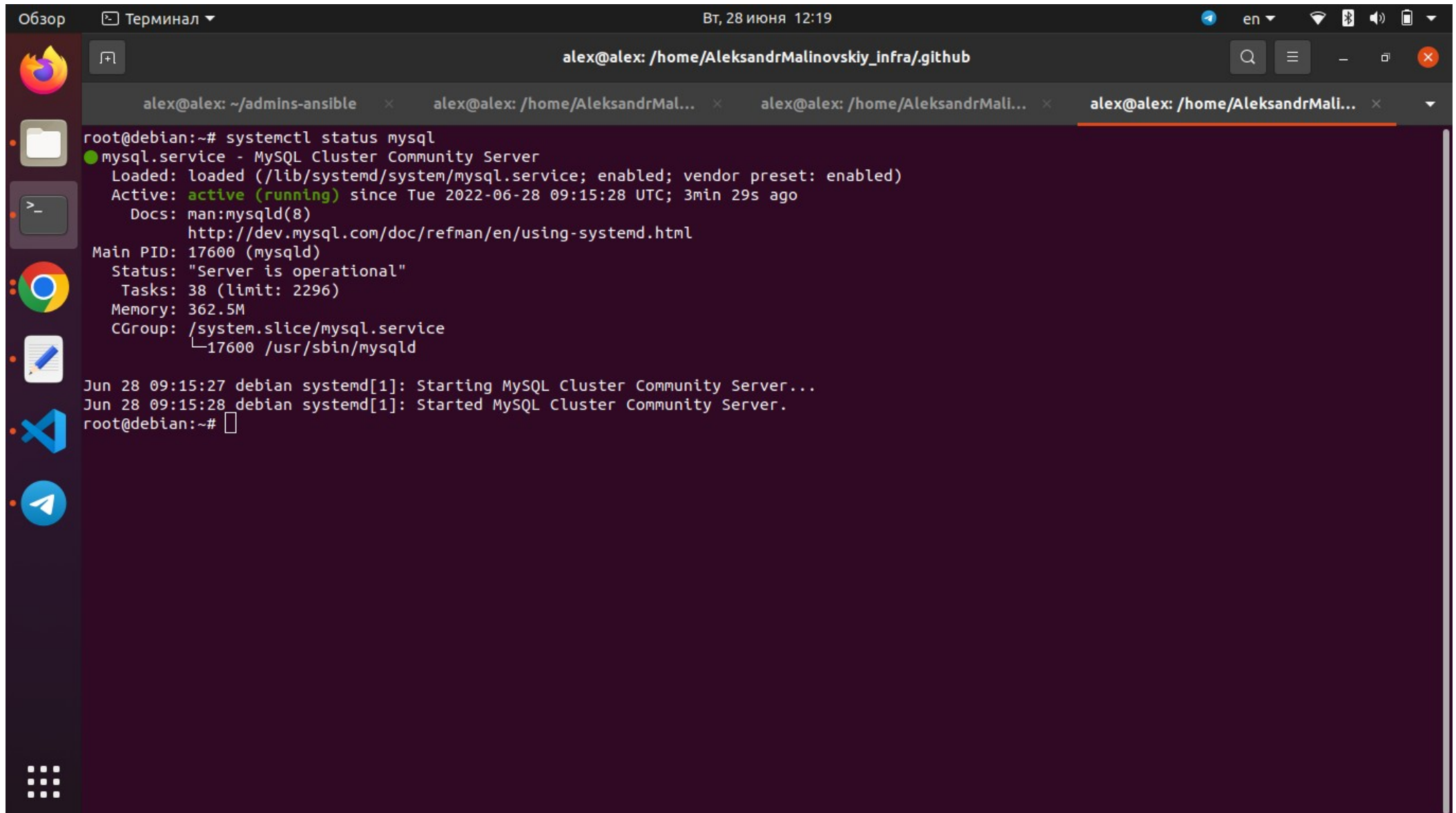


The screenshot shows a Linux desktop environment with a dark theme. A terminal window is open, displaying the output of the `systemctl status nginx` command. The terminal title is `alex@alex: /home/AleksandrMalinovskiy_infra/github`. The desktop background is dark purple. On the left side, there is a vertical dock with icons for Firefox, a file manager, a terminal, Google Chrome, a text editor, and a Telegram client. The top of the window shows a status bar with the date and time `Вт, 28 июня 12:16`, language `en`, and various system icons.

```
root@debian:~# systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2022-06-28 08:24:31 UTC; 52min ago
     Docs: man:nginx(8)
    Main PID: 2161 (nginx)
      Tasks: 2 (limit: 2296)
     Memory: 7.1M
    CGroup: /system.slice/nginx.service
            └─2161 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
               └─2162 nginx: worker process

Jun 28 08:24:31 debian systemd[1]: Starting A high performance web server and a reverse proxy server...
Jun 28 08:24:31 debian systemd[1]: nginx.service: Failed to parse PID from file /run/nginx.pid: Invalid argument
Jun 28 08:24:31 debian systemd[1]: Started A high performance web server and a reverse proxy server.
root@debian:~#
```

Установка MySQL

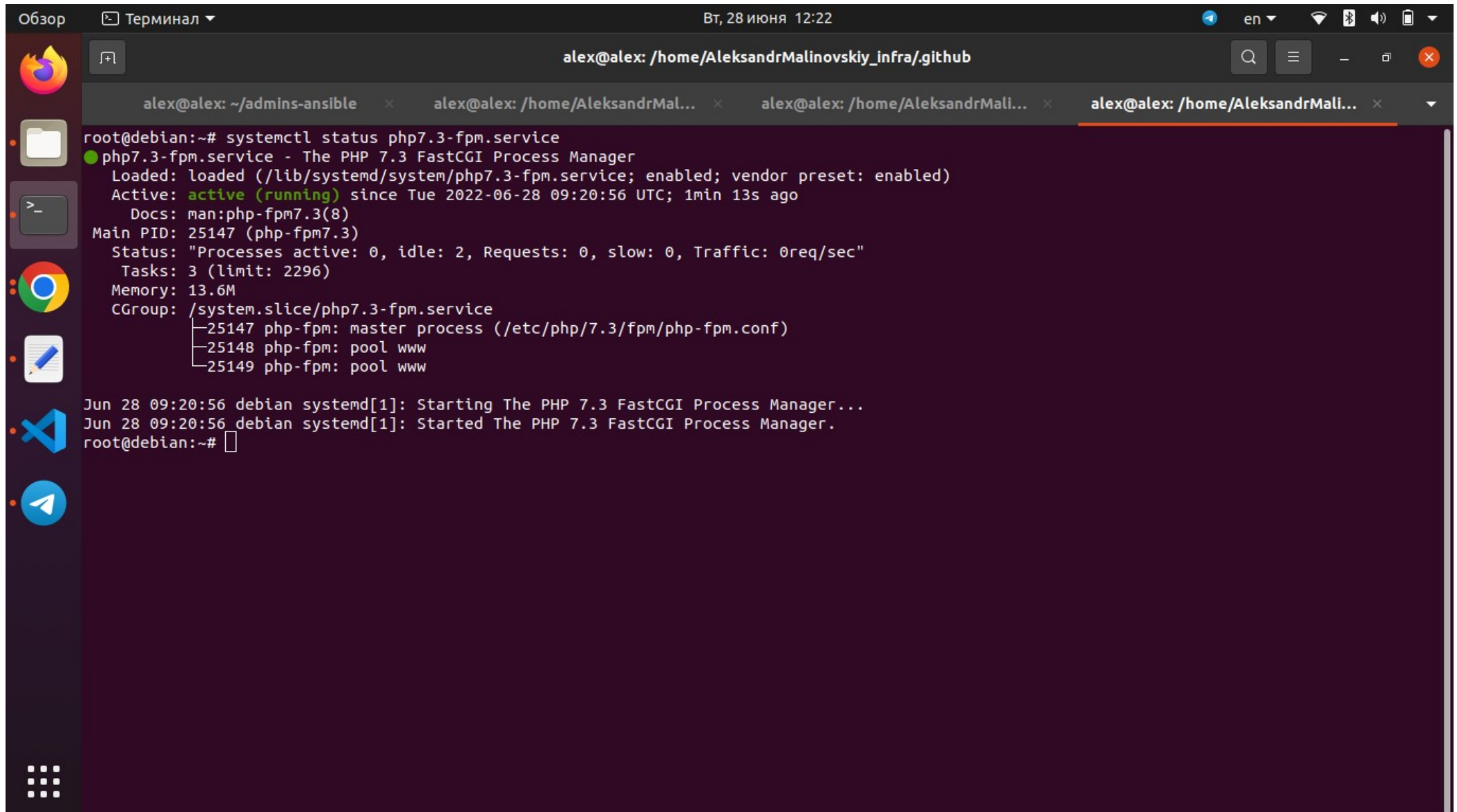


The screenshot shows a Linux desktop environment with a dark theme. A terminal window is open, displaying the output of the `systemctl status mysql` command. The terminal title is `alex@alex: /home/AleksandrMalinovskiy_infra/github`. The desktop background is dark purple. On the left side, there is a vertical dock with icons for Firefox, a file manager, a terminal, Google Chrome, a text editor, and a Telegram client. The top of the window shows a status bar with the date and time `Вт, 28 июня 12:19`, language `en`, and various system icons.

```
root@debian:~# systemctl status mysql
● mysql.service - MySQL Cluster Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2022-06-28 09:15:28 UTC; 3min 29s ago
     Docs: man:mysqld(8)
           http://dev.mysql.com/doc/refman/en/using-systemd.html
   Main PID: 17600 (mysqld)
    Status: "Server is operational"
     Tasks: 38 (limit: 2296)
    Memory: 362.5M
    CGroup: /system.slice/mysql.service
            └─17600 /usr/sbin/mysqld

Jun 28 09:15:27 debian systemd[1]: Starting MySQL Cluster Community Server...
Jun 28 09:15:28 debian systemd[1]: Started MySQL Cluster Community Server.
root@debian:~#
```

Установка PHP



```
Обзор  Терминал  Вт, 28 июня 12:22  en  [system icons]

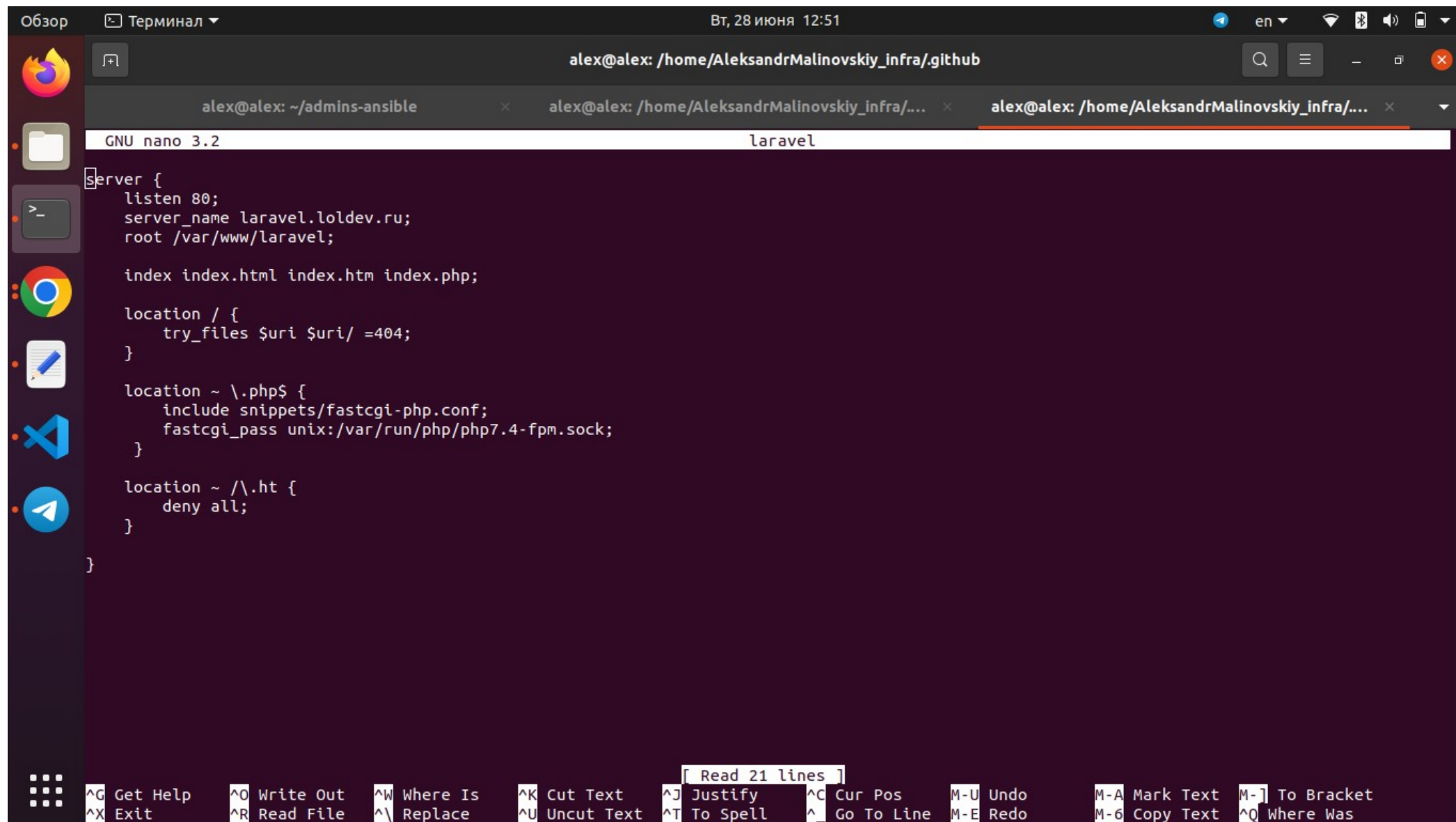
alex@alex: /home/AleksandrMalinovskiy_infra/github

alex@alex: ~/admins-ansible  alex@alex: /home/AleksandrMal...  alex@alex: /home/AleksandrMali...  alex@alex: /home/AleksandrMali...

root@debian:~# systemctl status php7.3-fpm.service
● php7.3-fpm.service - The PHP 7.3 FastCGI Process Manager
   Loaded: loaded (/lib/systemd/system/php7.3-fpm.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2022-06-28 09:20:56 UTC; 1min 13s ago
     Docs: man:php-fpm7.3(8)
   Main PID: 25147 (php-fpm7.3)
   Status: "Processes active: 0, idle: 2, Requests: 0, slow: 0, Traffic: 0req/sec"
    Tasks: 3 (limit: 2296)
   Memory: 13.6M
   CGroup: /system.slice/php7.3-fpm.service
           └─25147 php-fpm: master process (/etc/php/7.3/fpm/php-fpm.conf)
             └─25148 php-fpm: pool www
               └─25149 php-fpm: pool www

Jun 28 09:20:56 debian systemd[1]: Starting The PHP 7.3 FastCGI Process Manager...
Jun 28 09:20:56 debian systemd[1]: Started The PHP 7.3 FastCGI Process Manager.
root@debian:~#
```


Редактирование конфига nginx



```
server {
    listen 80;
    server_name laravel.loldev.ru;
    root /var/www/laravel;

    index index.html index.htm index.php;

    location / {
        try_files $uri $uri/ =404;
    }

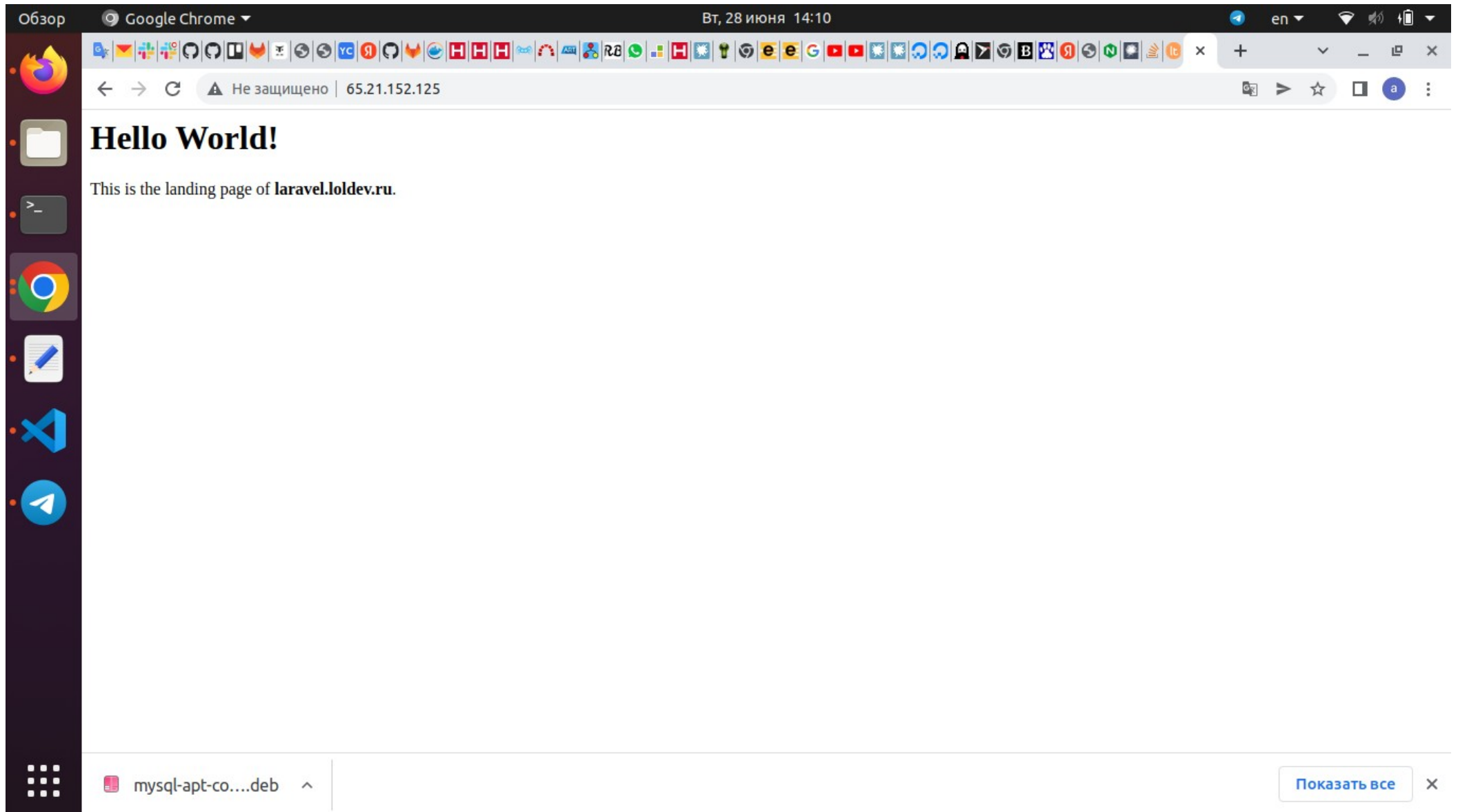
    location ~ \.php$ {
        include snippets/fastcgi-php.conf;
        fastcgi_pass unix:/var/run/php/php7.4-fpm.sock;
    }

    location ~ /\.ht {
        deny all;
    }
}
```

Read 21 lines

Get Help Write Out Where Is Cut Text Justify Cur Pos Undo Mark Text To Bracket
Exit Read File Replace Uncut Text To Spell Go To Line Redo Copy Text Where Was

Создание тестового файла `/var/www/laravel/index.html` для проверки работы сайта




Создание /var/www/laravel/info.php для тестирования PHP с помощью Nginx

Обзор Google Chrome Вт, 28 июня 14:10 en

Не защищено | 65.21.152.125/info.php

PHP Version 7.3.31-1~deb10u1

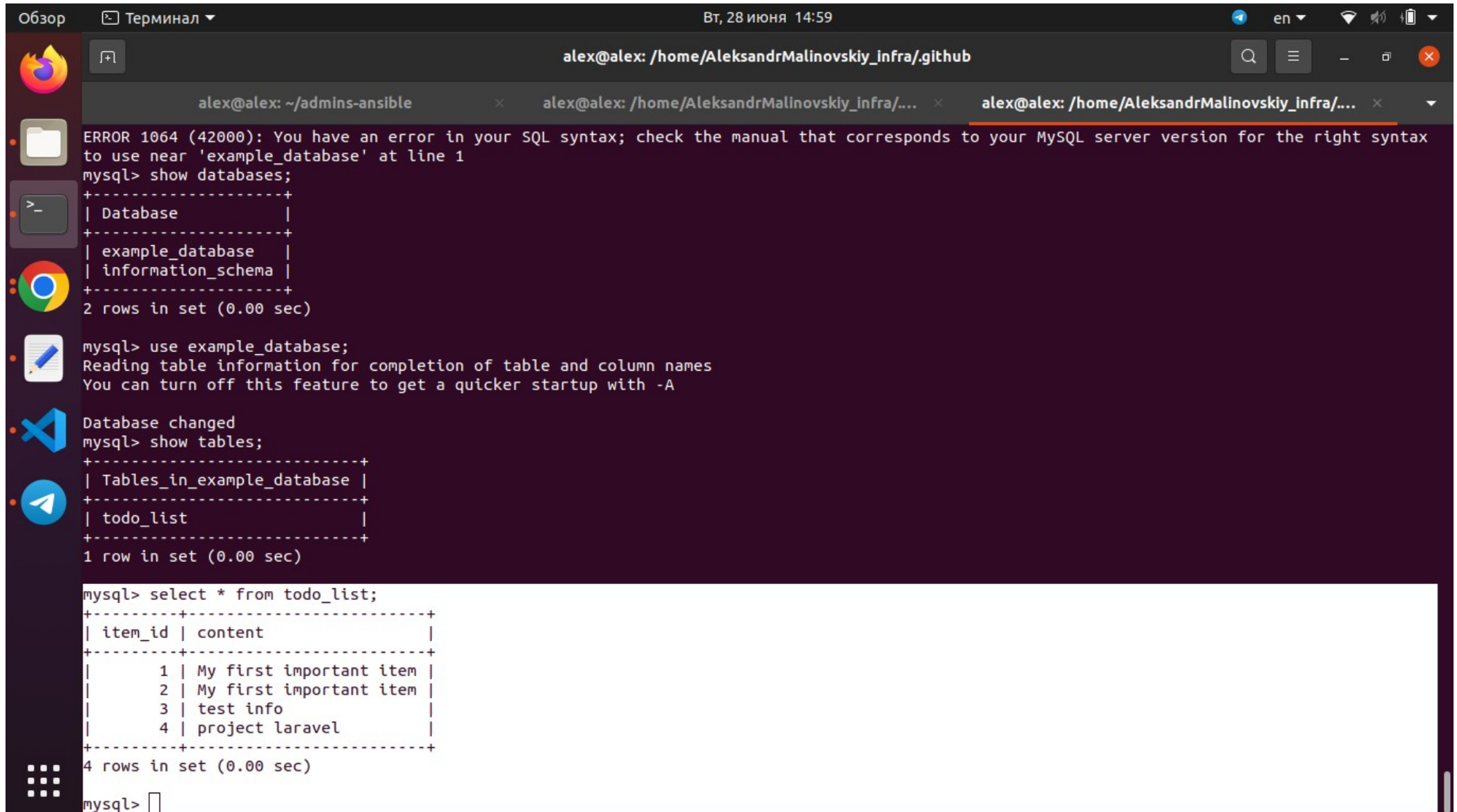


System	Linux debian 4.19.0-20-amd64 #1 SMP Debian 4.19.235-1 (2022-03-17) x86_64
Build Date	Oct 24 2021 15:18:08
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/7.3/fpm
Loaded Configuration File	/etc/php/7.3/fpm/php.ini
Scan this dir for additional .ini files	/etc/php/7.3/fpm/conf.d
Additional .ini files parsed	/etc/php/7.3/fpm/conf.d/10-mysqlnd.ini, /etc/php/7.3/fpm/conf.d/10-opcache.ini, /etc/php/7.3/fpm/conf.d/10-pdo.ini, /etc/php/7.3/fpm/conf.d/20-calendar.ini, /etc/php/7.3/fpm/conf.d/20-ctype.ini, /etc/php/7.3/fpm/conf.d/20-exif.ini, /etc/php/7.3/fpm/conf.d/20-fileinfo.ini, /etc/php/7.3/fpm/conf.d/20-ftp.ini, /etc/php/7.3/fpm/conf.d/20-gettext.ini, /etc/php/7.3/fpm/conf.d/20-iconv.ini, /etc/php/7.3/fpm/conf.d/20-json.ini, /etc/php/7.3/fpm/conf.d/20-mysqli.ini, /etc/php/7.3/fpm/conf.d/20-pdo_mysql.ini, /etc/php/7.3/fpm/conf.d/20-phar.ini, /etc/php/7.3/fpm/conf.d/20-posix.ini, /etc/php/7.3/fpm/conf.d/20-readline.ini, /etc/php/7.3/fpm/conf.d/20-shmop.ini, /etc/php/7.3/fpm/conf.d/20-sockets.ini, /etc/php/7.3/fpm/conf.d/20-sysvmsg.ini, /etc/php/7.3/fpm/conf.d/20-sysvsem.ini, /etc/php/7.3/fpm/conf.d/20-sysvshm.ini, /etc/php/7.3/fpm/conf.d/20-tokenizer.ini
PHP API	20180731
PHP Extension	20180731
Zend Extension	320180731
Zend Extension Build	API320180731,NTS
PHP Extension Build	API20180731,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	disabled

mysql-apt-co....deb

Показать все

Тестирование подключения к базе данных из PHP - создал пользователя и тестовую таблицу в mysql



The screenshot shows a terminal window with the following content:

```
alex@alex: /home/AleksandrMalinovskiy_infra/github
alex@alex: ~/admins-ansible
alex@alex: /home/AleksandrMalinovskiy_infra/...
alex@alex: /home/AleksandrMalinovskiy_infra/...

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
to use near 'example_database' at line 1
mysql> show databases;
+-----+
| Database |
+-----+
| example_database |
| information_schema |
+-----+
2 rows in set (0.00 sec)

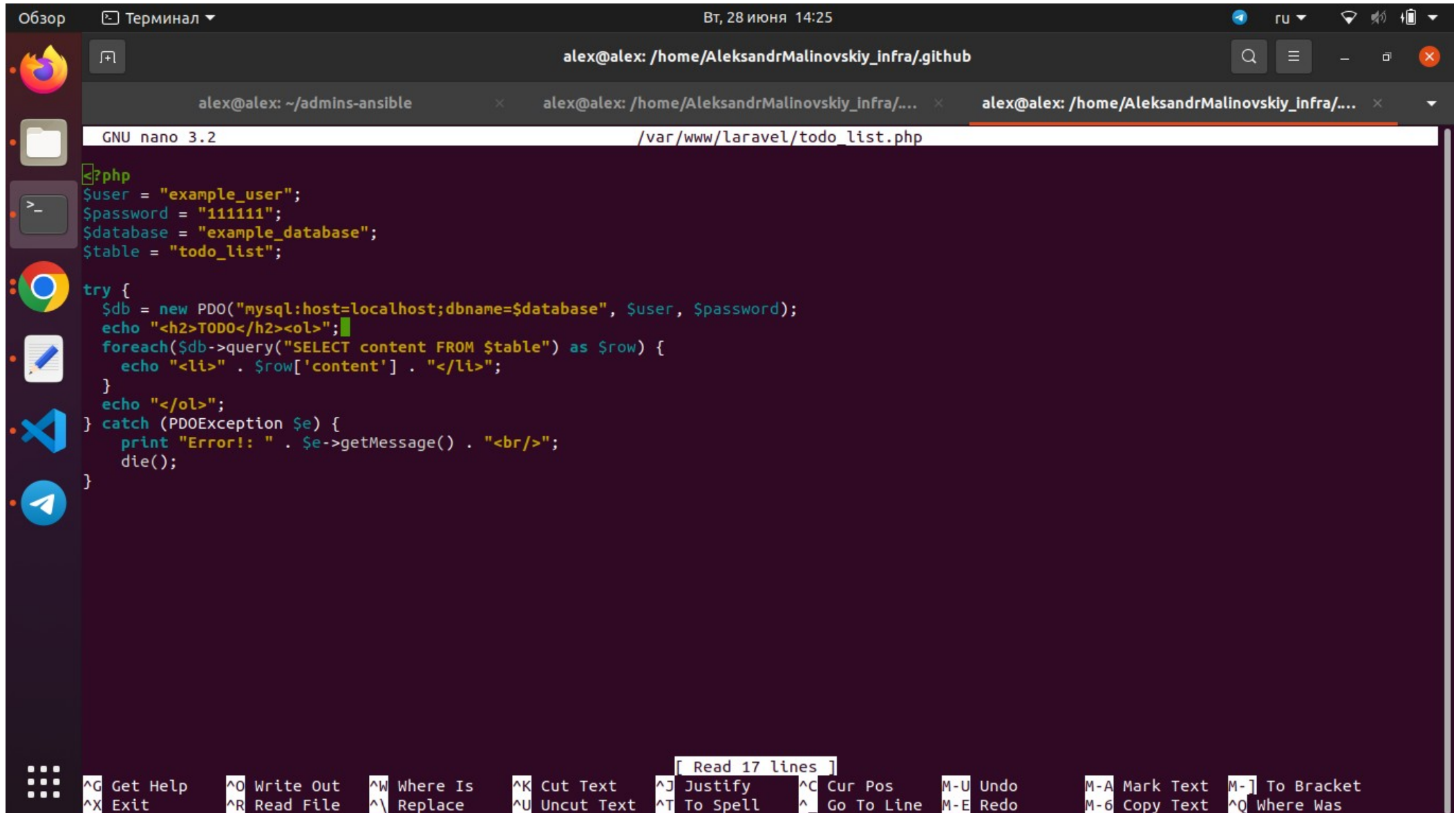
mysql> use example_database;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----+
| Tables_in_example_database |
+-----+
| todo_list |
+-----+
1 row in set (0.00 sec)

mysql> select * from todo_list;
+-----+
| item_id | content |
+-----+
| 1 | My first important item |
| 2 | My first important item |
| 3 | test info |
| 4 | project laravel |
+-----+
4 rows in set (0.00 sec)

mysql>
```

- создал скрипт PHP /var/www/laravel/todo_list.php, который будет подключаться к MySQL и запрашивать контент



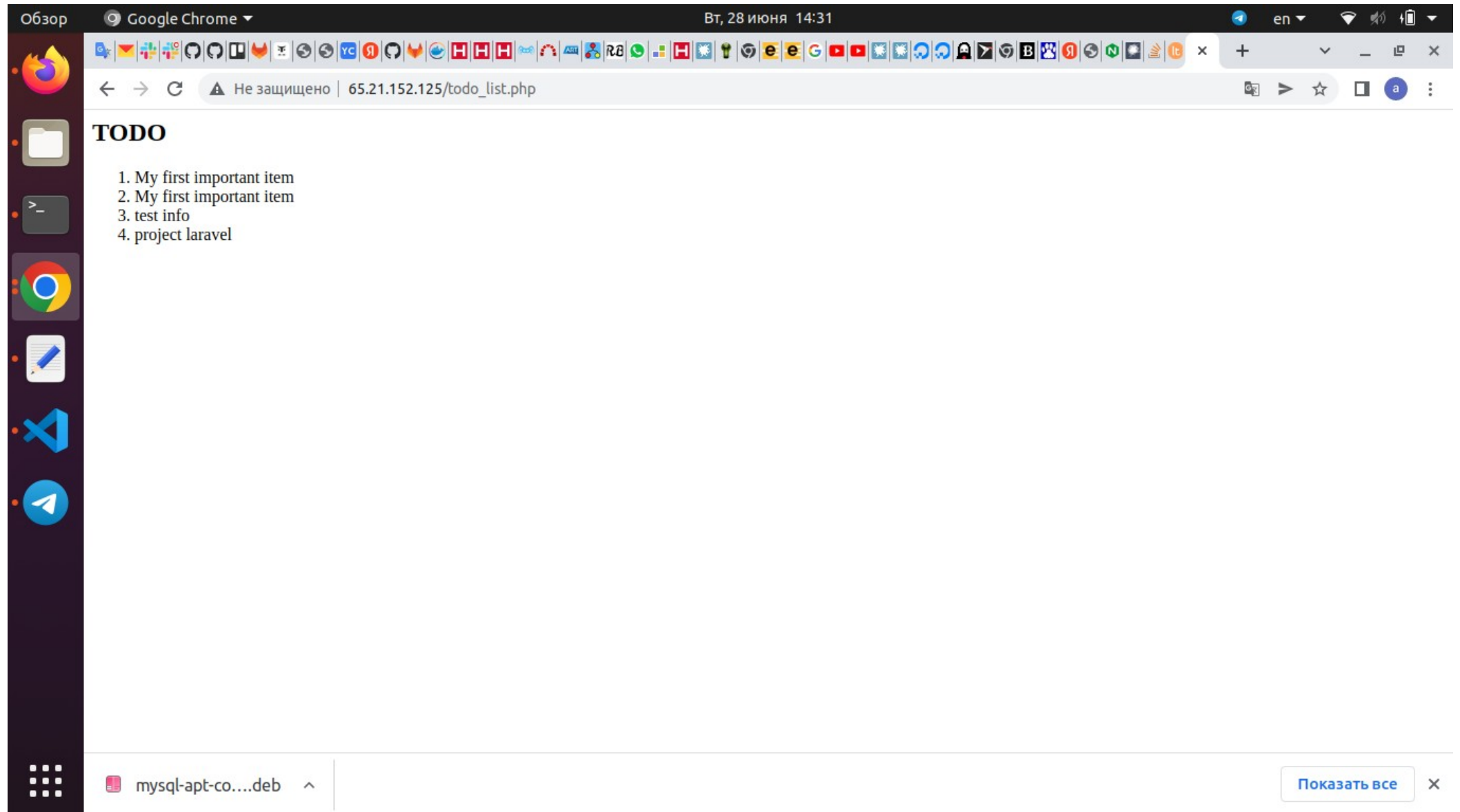
The screenshot shows a terminal window with the nano text editor open. The file being edited is /var/www/laravel/todo_list.php. The script is a PHP file that connects to a MySQL database and retrieves content from a table named 'todo_list'. The terminal window has a dark background with syntax highlighting for the PHP code. The top of the window shows the username 'alex@alex' and the date 'Вт, 28 июня 14:25'. The left sidebar contains icons for various applications like Firefox, File Manager, and VS Code. The bottom of the window displays a list of keyboard shortcuts for the nano editor.

```
Obзор  Терминал  Вт, 28 июня 14:25
alex@alex: /home/AleksandrMalinovskiy_infra/github
alex@alex: ~/admins-ansible  alex@alex: /home/AleksandrMalinovskiy_infra/...  alex@alex: /home/AleksandrMalinovskiy_infra/...
GNU nano 3.2  /var/www/laravel/todo_list.php
<?php
$user = "example_user";
$password = "111111";
$database = "example_database";
$table = "todo_list";

try {
    $db = new PDO("mysql:host=localhost;dbname=$database", $user, $password);
    echo "<h2>TODO</h2><ol>";
    foreach($db->query("SELECT content FROM $table") as $row) {
        echo "<li>" . $row['content'] . "</li>";
    }
    echo "</ol>";
} catch (PDOException $e) {
    print "Error!: " . $e->getMessage() . "<br/>";
    die();
}
```

Get Help Write Out Where Is Cut Text Justify Cur Pos M-U Undo M-A Mark Text M-] To Bracket
Exit Read File Replace Uncut Text To Spell Go To Line M-E Redo M-6 Copy Text ^Q Where Was

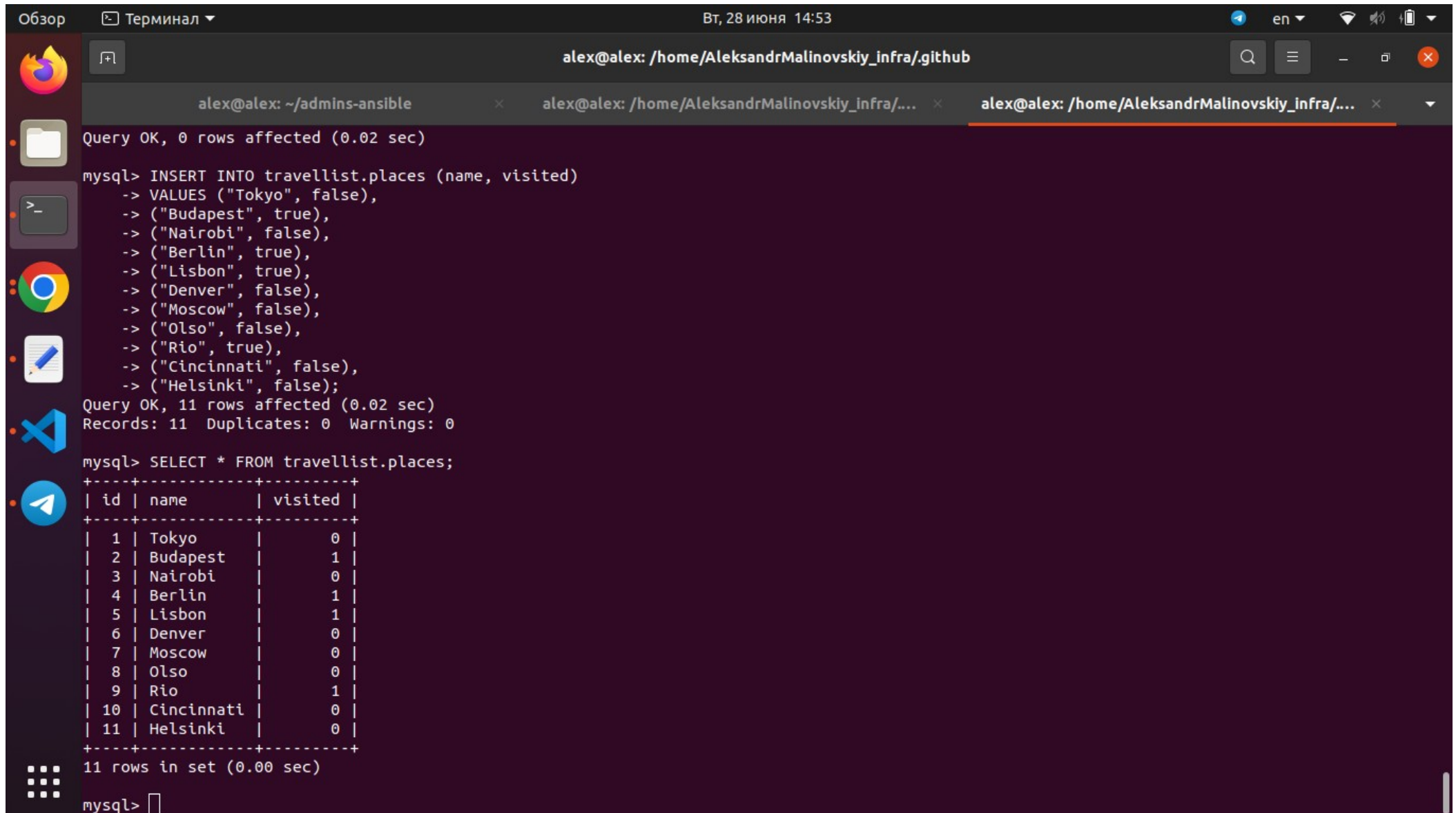
Отображение таблицы на веб сайте



Задание 2. Установить и настроить новое тестовое приложение Laravel на сервере используя Composer для загрузки зависимостей инфраструктуры и управления ими и используя Nginx для обслуживания приложения.

До установил необходимые модули PHP (php-mbstring, php-xml, php-bcmath).

Создал базу данных для приложения.



The screenshot shows a terminal window with a dark background. The top bar indicates the user is 'alex' on a machine named 'alex', with the date and time 'Вт, 28 июня 14:53'. The terminal shows the following commands and output:

```
Query OK, 0 rows affected (0.02 sec)

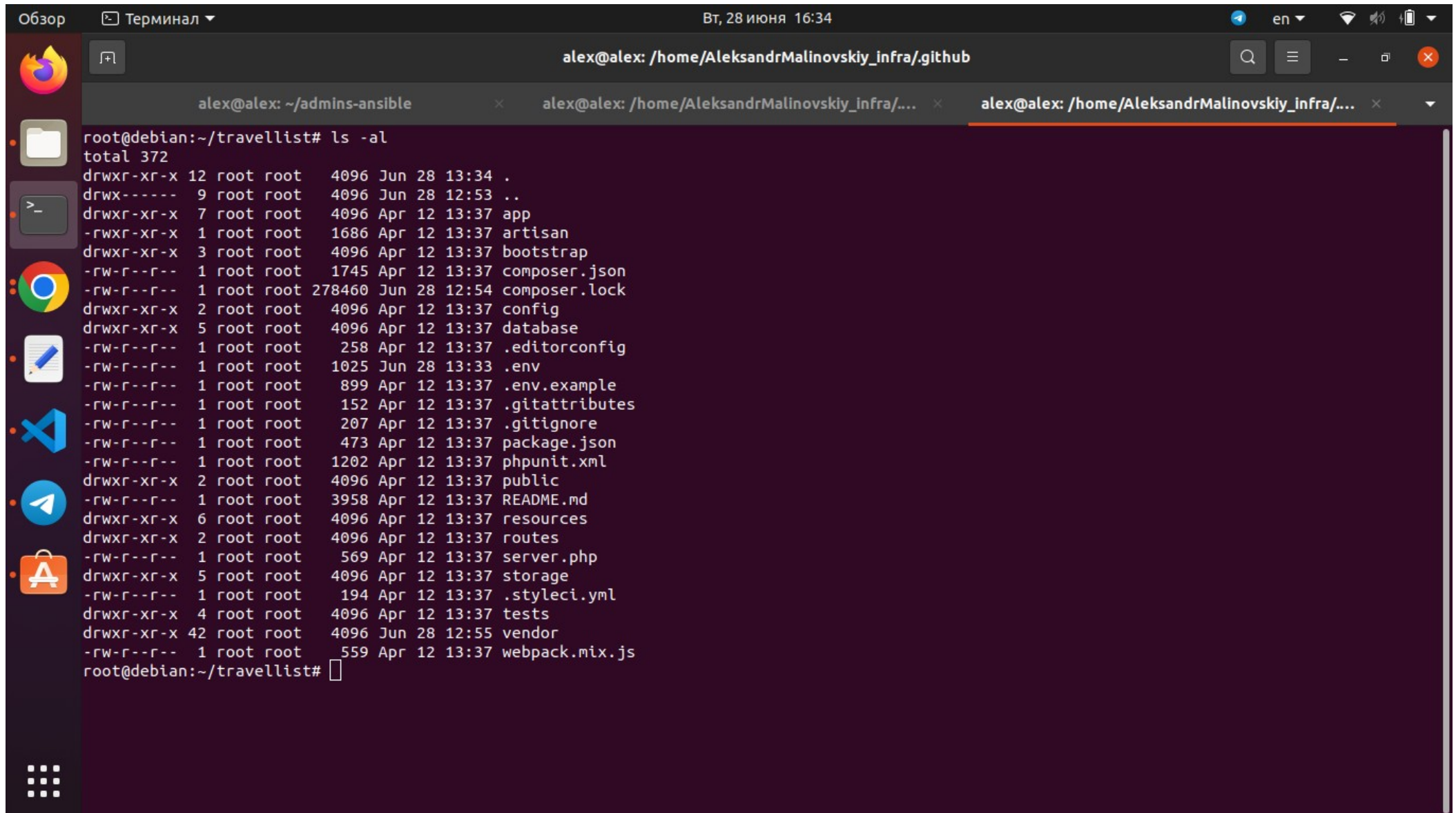
mysql> INSERT INTO travellist.places (name, visited)
-> VALUES ("Tokyo", false),
-> ("Budapest", true),
-> ("Nairobi", false),
-> ("Berlin", true),
-> ("Lisbon", true),
-> ("Denver", false),
-> ("Moscow", false),
-> ("Olso", false),
-> ("Rio", true),
-> ("Cincinnati", false),
-> ("Helsinki", false);

Query OK, 11 rows affected (0.02 sec)
Records: 11  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM travellist.places;
+-----+
| id | name      | visited |
+-----+
| 1  | Tokyo     | 0       |
| 2  | Budapest  | 1       |
| 3  | Nairobi   | 0       |
| 4  | Berlin    | 1       |
| 5  | Lisbon    | 1       |
| 6  | Denver    | 0       |
| 7  | Moscow    | 0       |
| 8  | Olso      | 0       |
| 9  | Rio       | 1       |
| 10 | Cincinnati| 0       |
| 11 | Helsinki  | 0       |
+-----+
11 rows in set (0.00 sec)

mysql>
```

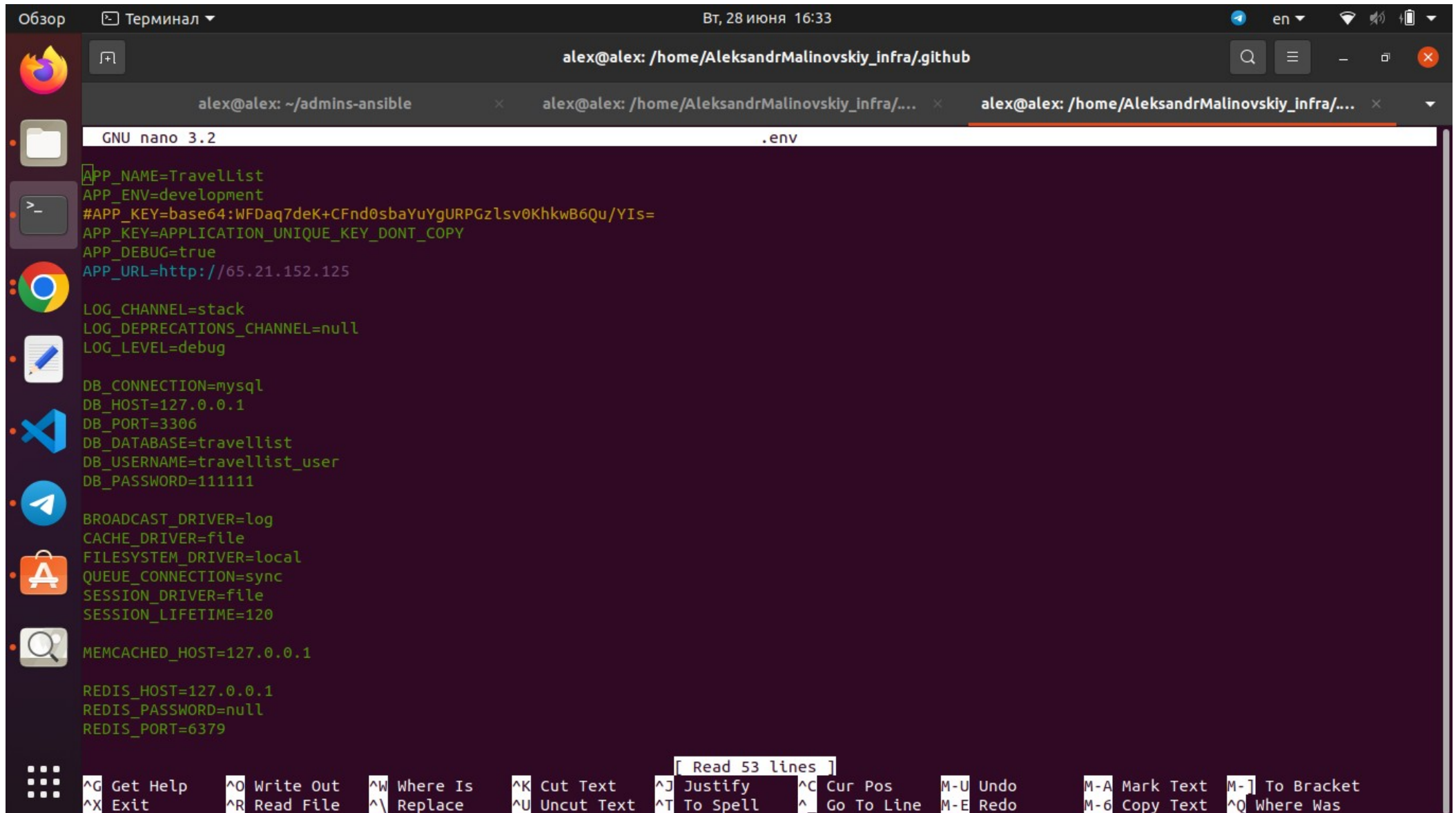

Создал новое приложения Laravel-travellist



The screenshot shows a Linux desktop environment with a dark theme. A terminal window is open, displaying the command `ls -al` and its output. The output lists the contents of the `~/travellist` directory, including files like `app`, `artisan`, `bootstrap`, `composer.json`, `composer.lock`, `config`, `database`, `.editorconfig`, `.env`, `.env.example`, `.gitattributes`, `.gitignore`, `package.json`, `phpunit.xml`, `public`, `README.md`, `resources`, `routes`, `server.php`, `storage`, `.styleci.yml`, `tests`, `vendor`, and `webpack.mix.js`.

```
root@debian:~/travellist# ls -al
total 372
drwxr-xr-x 12 root root 4096 Jun 28 13:34 .
drwx----- 9 root root 4096 Jun 28 12:53 ..
drwxr-xr-x 7 root root 4096 Apr 12 13:37 app
-rwxr-xr-x 1 root root 1686 Apr 12 13:37 artisan
drwxr-xr-x 3 root root 4096 Apr 12 13:37 bootstrap
-rw-r--r-- 1 root root 1745 Apr 12 13:37 composer.json
-rw-r--r-- 1 root root 278460 Jun 28 12:54 composer.lock
drwxr-xr-x 2 root root 4096 Apr 12 13:37 config
drwxr-xr-x 5 root root 4096 Apr 12 13:37 database
-rw-r--r-- 1 root root 258 Apr 12 13:37 .editorconfig
-rw-r--r-- 1 root root 1025 Jun 28 13:33 .env
-rw-r--r-- 1 root root 899 Apr 12 13:37 .env.example
-rw-r--r-- 1 root root 152 Apr 12 13:37 .gitattributes
-rw-r--r-- 1 root root 207 Apr 12 13:37 .gitignore
-rw-r--r-- 1 root root 473 Apr 12 13:37 package.json
-rw-r--r-- 1 root root 1202 Apr 12 13:37 phpunit.xml
drwxr-xr-x 2 root root 4096 Apr 12 13:37 public
-rw-r--r-- 1 root root 3958 Apr 12 13:37 README.md
drwxr-xr-x 6 root root 4096 Apr 12 13:37 resources
drwxr-xr-x 2 root root 4096 Apr 12 13:37 routes
-rw-r--r-- 1 root root 569 Apr 12 13:37 server.php
drwxr-xr-x 5 root root 4096 Apr 12 13:37 storage
-rw-r--r-- 1 root root 194 Apr 12 13:37 .styleci.yml
drwxr-xr-x 4 root root 4096 Apr 12 13:37 tests
drwxr-xr-x 42 root root 4096 Jun 28 12:55 vendor
-rw-r--r-- 1 root root 559 Apr 12 13:37 webpack.mix.js
root@debian:~/travellist#
```


Настроил Laravel в файле .env



The screenshot shows a terminal window with the title bar "Обзор Терминал" and the date/time "Вт, 28 июня 16:33". The terminal is running the nano text editor, editing the .env file. The file contains the following configuration:

```
APP_NAME=Travellist
APP_ENV=development
#APP_KEY=base64:WFDaq7deK+CFnd0sbaYuYgURPGzlsv0KhkwB6Qu/YIs=
APP_KEY=APPLICATION_UNIQUE_KEY_DONT_COPY
APP_DEBUG=true
APP_URL=http://65.21.152.125

LOG_CHANNEL=stack
LOG_DEPRECATIONS_CHANNEL=null
LOG_LEVEL=debug

DB_CONNECTION=mysql
DB_HOST=127.0.0.1
DB_PORT=3306
DB_DATABASE=travellist
DB_USERNAME=travellist_user
DB_PASSWORD=111111

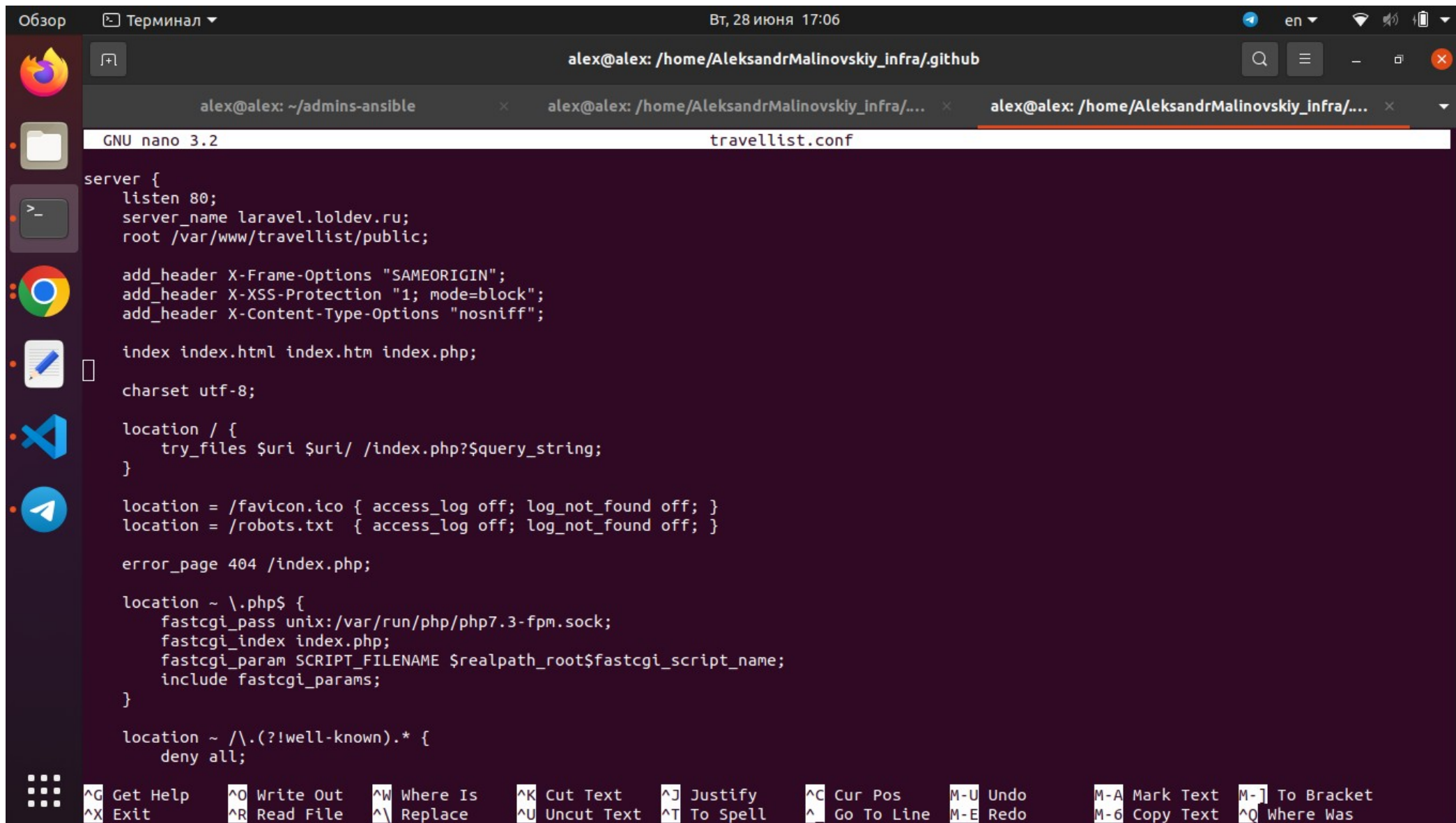
BROADCAST_DRIVER=log
CACHE_DRIVER=file
FILESYSTEM_DRIVER=local
QUEUE_CONNECTION=sync
SESSION_DRIVER=file
SESSION_LIFETIME=120

MEMCACHED_HOST=127.0.0.1

REDIS_HOST=127.0.0.1
REDIS_PASSWORD=null
REDIS_PORT=6379
```

The terminal window also shows a sidebar with application icons and a bottom status bar with keyboard shortcuts.

Настроил Nginx



The screenshot shows a Linux desktop environment with a dark theme. The top panel displays the date and time as "Вт, 28 июня 17:06". The left sidebar contains icons for various applications, including Firefox, a file manager, a terminal, and several development tools. The main window is a terminal running the GNU nano 3.2 text editor, editing the file `travellist.conf`. The configuration file content is as follows:

```
server {
    listen 80;
    server_name laravel.loldev.ru;
    root /var/www/travellist/public;

    add_header X-Frame-Options "SAMEORIGIN";
    add_header X-XSS-Protection "1; mode=block";
    add_header X-Content-Type-Options "nosniff";

    index index.html index.htm index.php;

    charset utf-8;

    location / {
        try_files $uri $uri/ /index.php?$query_string;
    }

    location = /favicon.ico { access_log off; log_not_found off; }
    location = /robots.txt  { access_log off; log_not_found off; }

    error_page 404 /index.php;

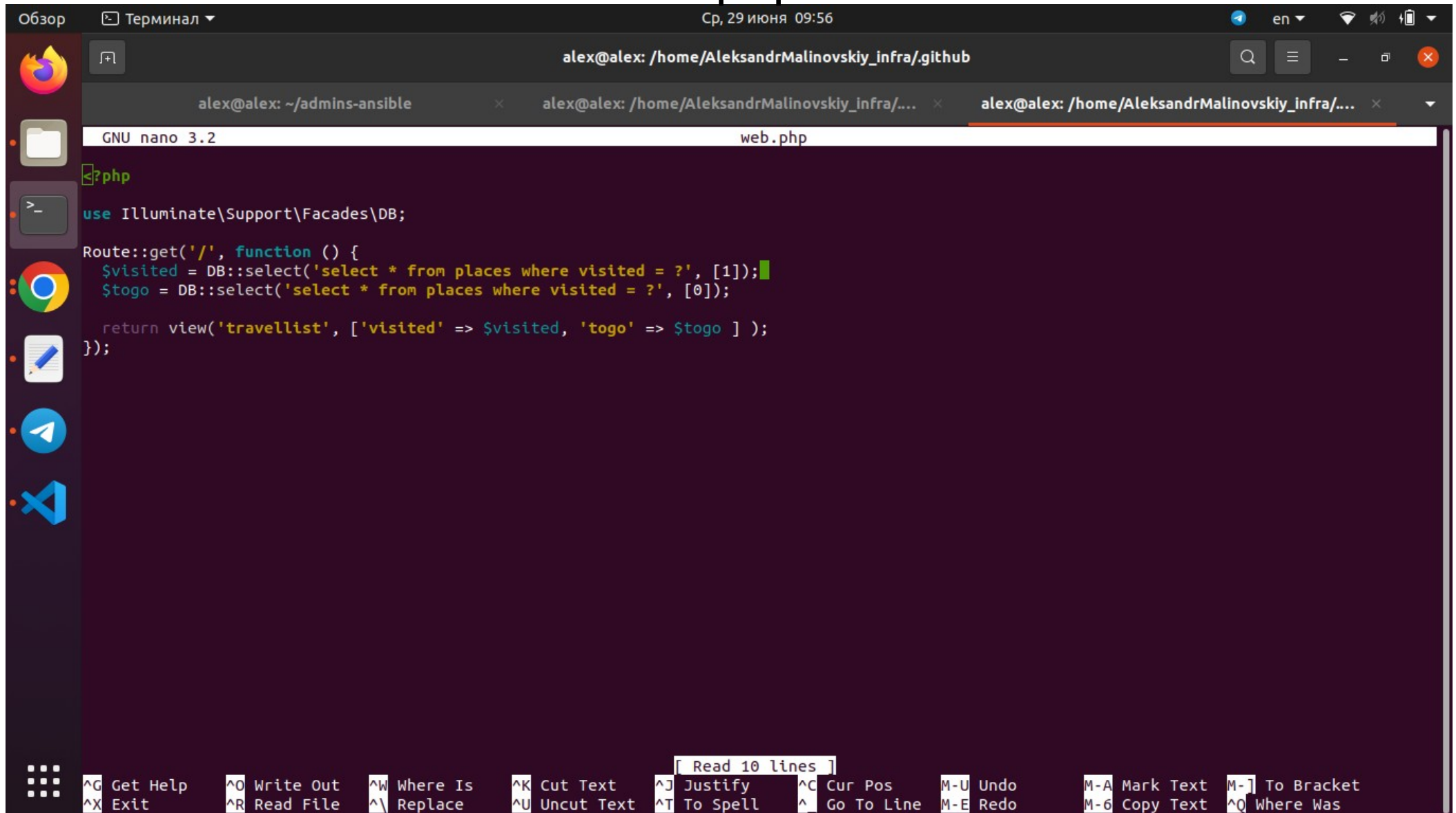
    location ~ \.php$ {
        fastcgi_pass unix:/var/run/php/php7.3-fpm.sock;
        fastcgi_index index.php;
        fastcgi_param SCRIPT_FILENAME $realpath_root$fastcgi_script_name;
        include fastcgi_params;
    }

    location ~ /\.(!well-known).* {
        deny all;
    }
}
```

At the bottom of the terminal window, there is a row of keyboard shortcuts for nano editor:

^G Get Help	^O Write Out	^W Where Is	^K Cut Text	^J Justify	^C Cur Pos	M-U Undo	M-A Mark Text	M-] To Bracket
^X Exit	^R Read File	^_ Replace	^U Uncut Text	^T To Spell	^_ Go To Line	M-E Redo	M-6 Copy Text	^Q Where Was

Настроил главную страницу
- изменил файл основного маршрута
/var/www/travellist/routes/web.php



```
alex@alex: /home/AleksandrMalinovskiy_infra/....
GNU nano 3.2 web.php
<?php
use Illuminate\Support\Facades\DB;

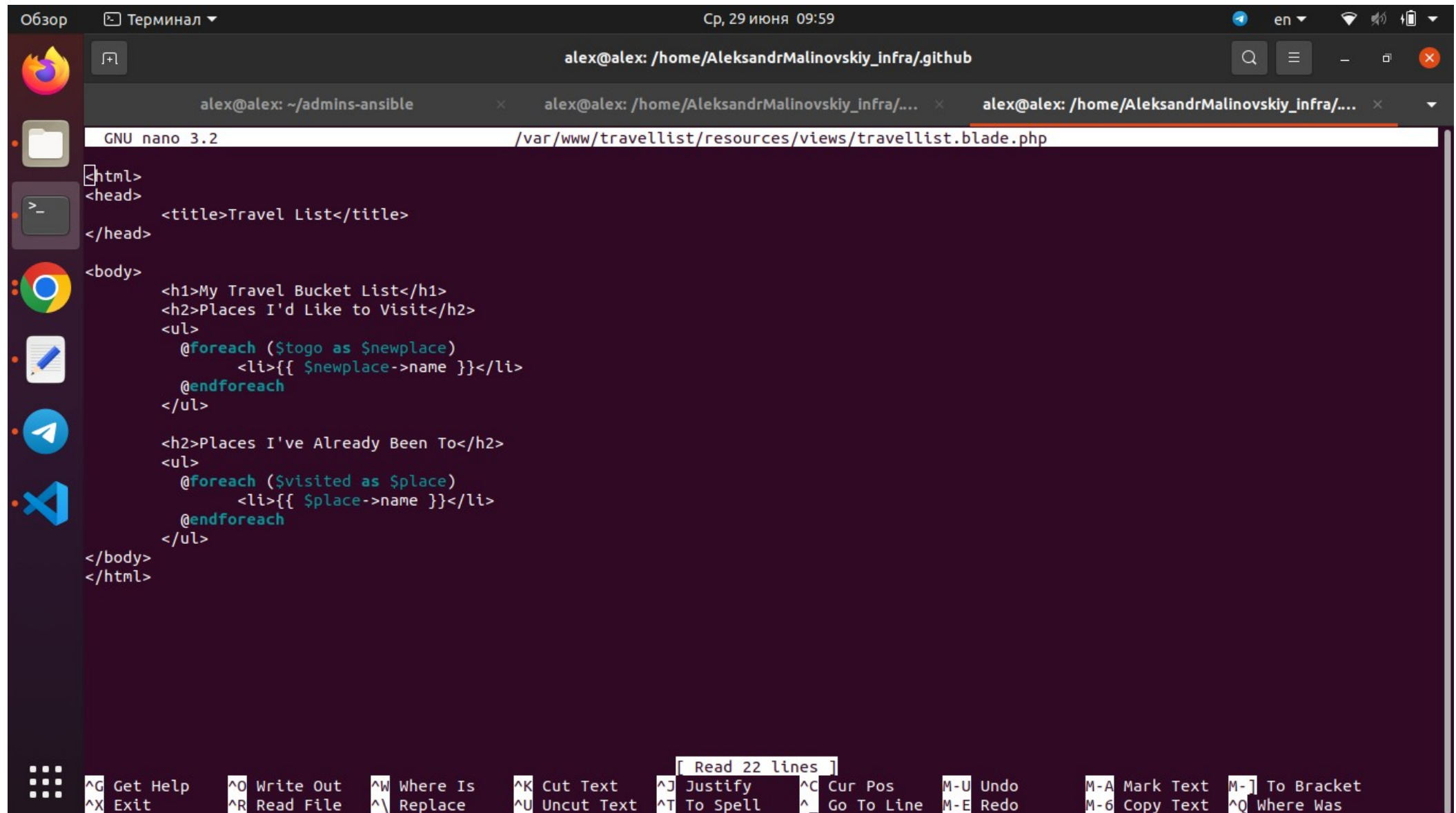
Route::get('/', function () {
    $visited = DB::select('select * from places where visited = ?', [1]);
    $togo = DB::select('select * from places where visited = ?', [0]);

    return view('travellist', ['visited' => $visited, 'togo' => $togo ] );
});
```

Read 10 lines

^G Get Help	^O Write Out	^W Where Is	^K Cut Text	^J Justify	^C Cur Pos	M-U Undo	M-A Mark Text	M-] To Bracket
^X Exit	^R Read File	^_ Replace	^U Uncut Text	^T To Spell	^_ Go To Line	M-E Redo	M-6 Copy Text	^O Where Was

- создал новый файл представления
/var/www/travellist/resources/views/travellist.blade.php

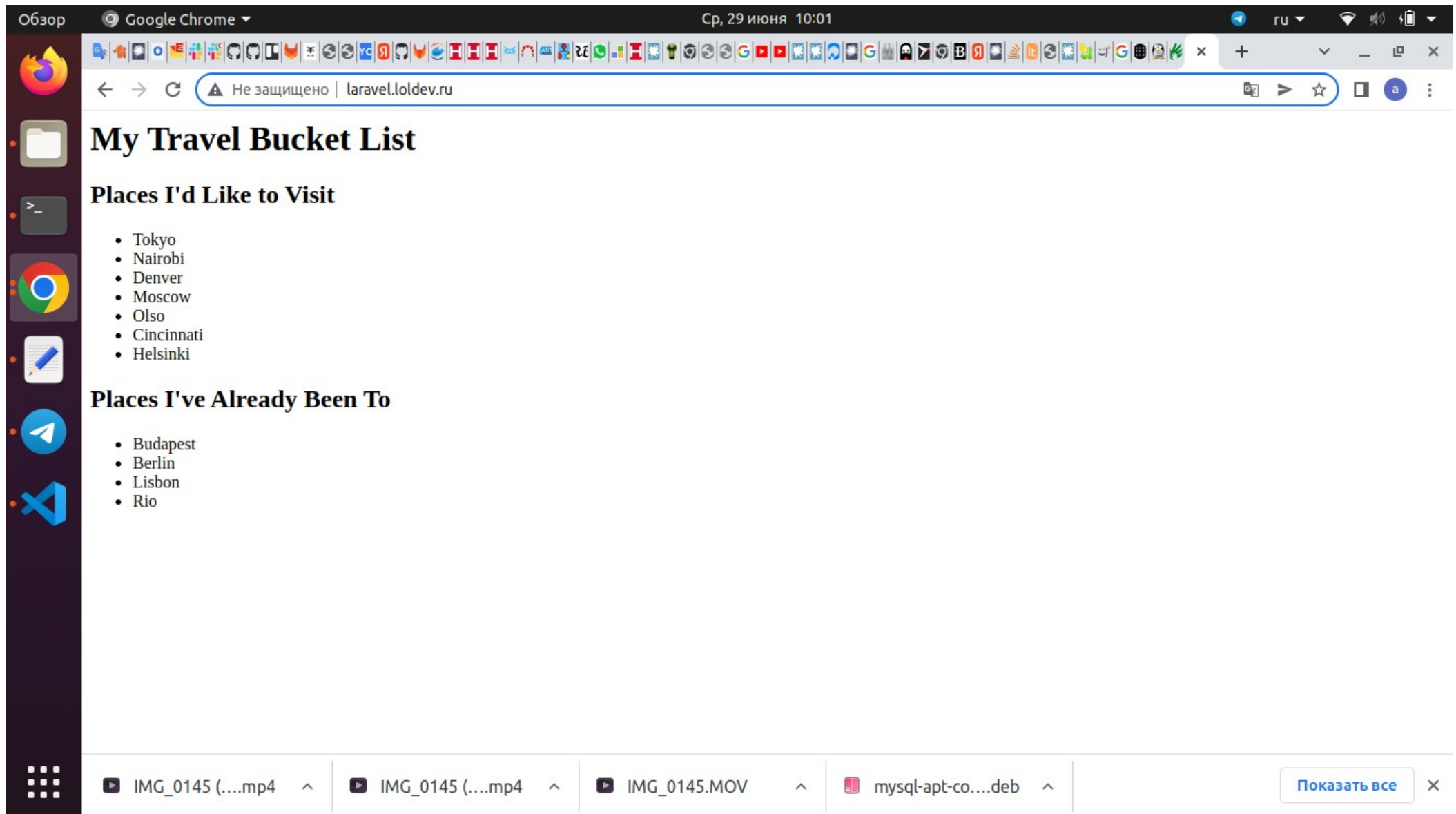


The screenshot shows a Linux terminal window with the following details:

- Top Bar:** Displays "Обзор" (Overview), "Терминал" (Terminal), and the date/time "Ср, 29 июня 09:59".
- Terminal Title Bar:** Shows the user and path "alex@alex: /home/AleksandrMalinovskiy_infra/github".
- Terminal Content:** The user has run the command `touch /var/www/travellist/resources/views/travellist.blade.php`. The terminal output shows the file was created successfully.
- Terminal Prompt:** The prompt is `alex@alex: ~/admins-ansible`.
- Terminal Output:** The output shows the file was created successfully.
- Terminal Prompt:** The prompt is `alex@alex: ~/admins-ansible`.
- Terminal Output:** The output shows the file was created successfully.

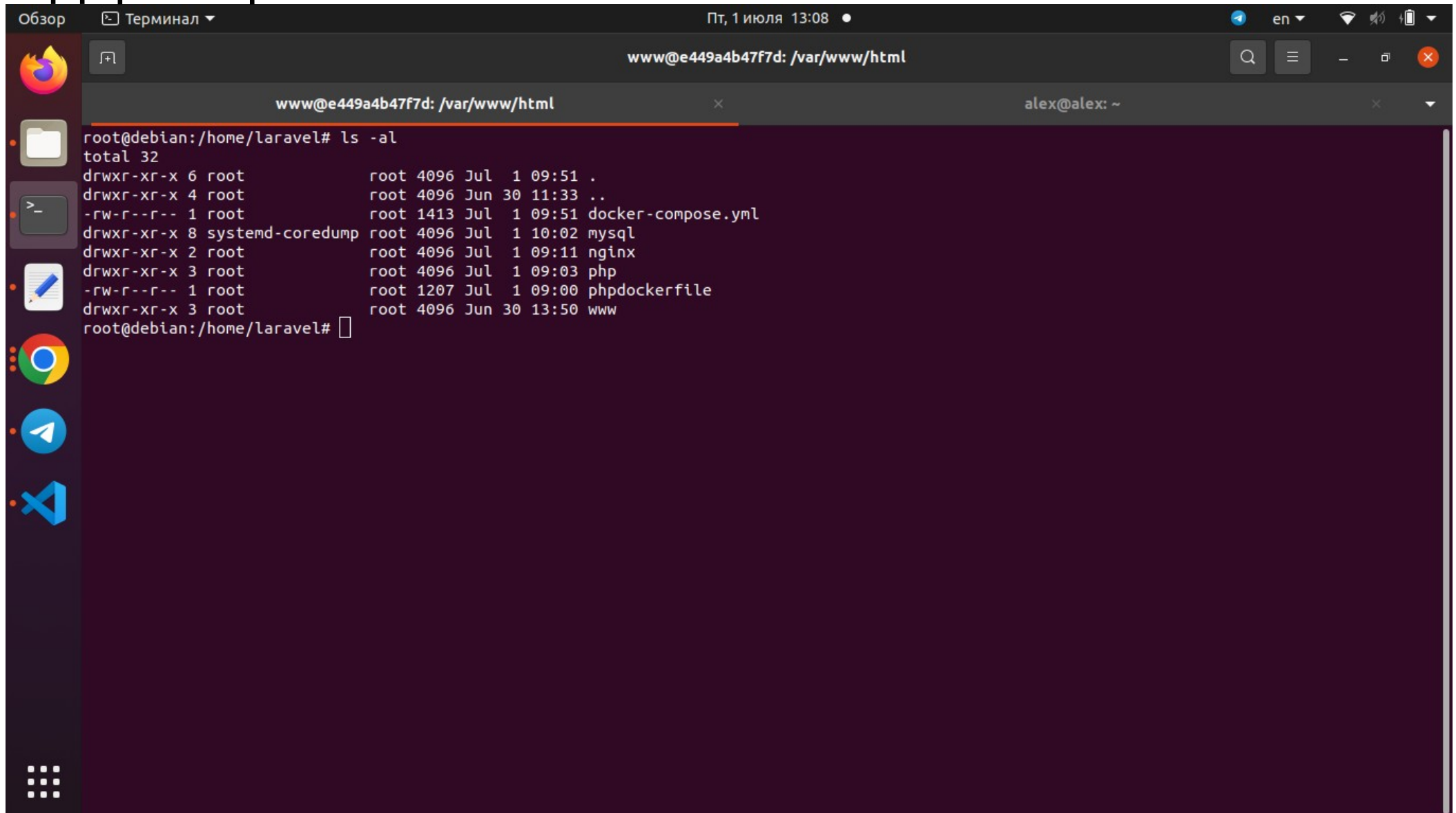
```
alex@alex: ~/admins-ansible
touch /var/www/travellist/resources/views/travellist.blade.php
alex@alex: ~/admins-ansible
```


Страница сайта с работающим приложением Laravel, извлекающее содержимое из базы данных MySQL



Задание 3. Развернуть и настроить сервер с Nginx, MySQL, PHP (стек LEMP) в Docker Compose

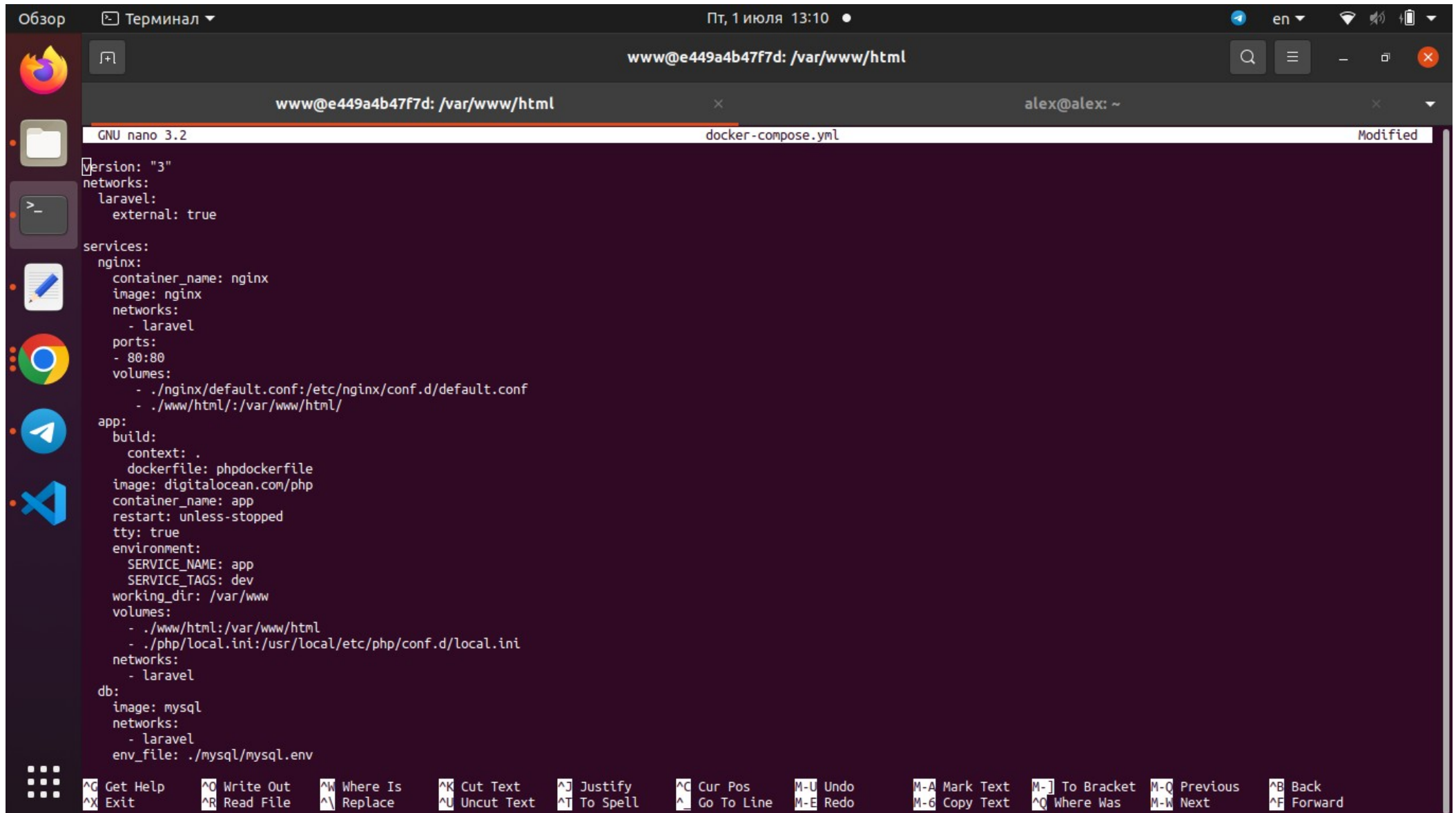
- Директория



The screenshot shows a terminal window with a dark background. The title bar at the top indicates the current directory is `www@e449a4b47f7d: /var/www/html`. The terminal output shows the command `ls -al` being executed, listing the contents of the directory. The output is as follows:

```
root@debian:/home/laravel# ls -al
total 32
drwxr-xr-x 6 root          root 4096 Jul  1 09:51 .
drwxr-xr-x 4 root          root 4096 Jun 30 11:33 ..
-rw-r--r-- 1 root          root 1413 Jul  1 09:51 docker-compose.yml
drwxr-xr-x 8 systemd-coredump root 4096 Jul  1 10:02 mysql
drwxr-xr-x 2 root          root 4096 Jul  1 09:11 nginx
drwxr-xr-x 3 root          root 4096 Jul  1 09:03 php
-rw-r--r-- 1 root          root 1207 Jul  1 09:00 phpdockerfile
drwxr-xr-x 3 root          root 4096 Jun 30 13:50 www
root@debian:/home/laravel#
```

Создал docker-compose.yml

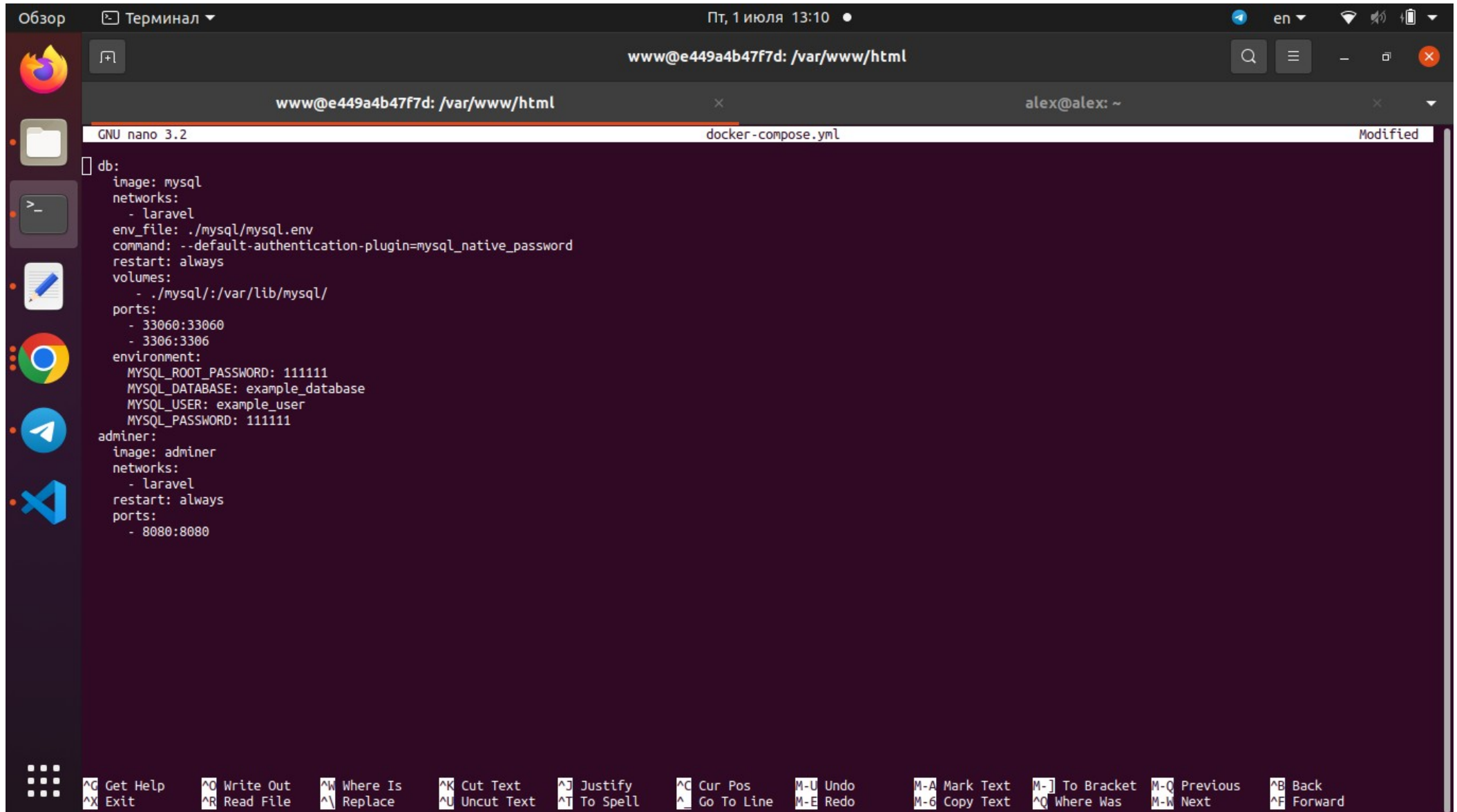


The screenshot shows a terminal window with a dark theme. The top bar indicates the current directory is `www@e449a4b47f7d: /var/www/html`. The terminal title bar shows `GNU nano 3.2` and the filename `docker-compose.yml`. The content of the file is as follows:

```
Version: "3"
networks:
  laravel:
    external: true
services:
  nginx:
    container_name: nginx
    image: nginx
    networks:
      - laravel
    ports:
      - 80:80
    volumes:
      - ./nginx/default.conf:/etc/nginx/conf.d/default.conf
      - ./www/html:/var/www/html/
  app:
    build:
      context: .
      dockerfile: phpdockerfile
    image: digitalocean.com/php
    container_name: app
    restart: unless-stopped
    tty: true
    environment:
      SERVICE_NAME: app
      SERVICE_TAGS: dev
    working_dir: /var/www
    volumes:
      - ./www/html:/var/www/html
      - ./php/local.ini:/usr/local/etc/php/conf.d/local.ini
    networks:
      - laravel
  db:
    image: mysql
    networks:
      - laravel
    env_file: ./mysql/mysql.env
```

At the bottom of the terminal, there is a row of keyboard shortcuts for nano editor, such as `^G Get Help`, `^O Write Out`, `^W Where Is`, etc.

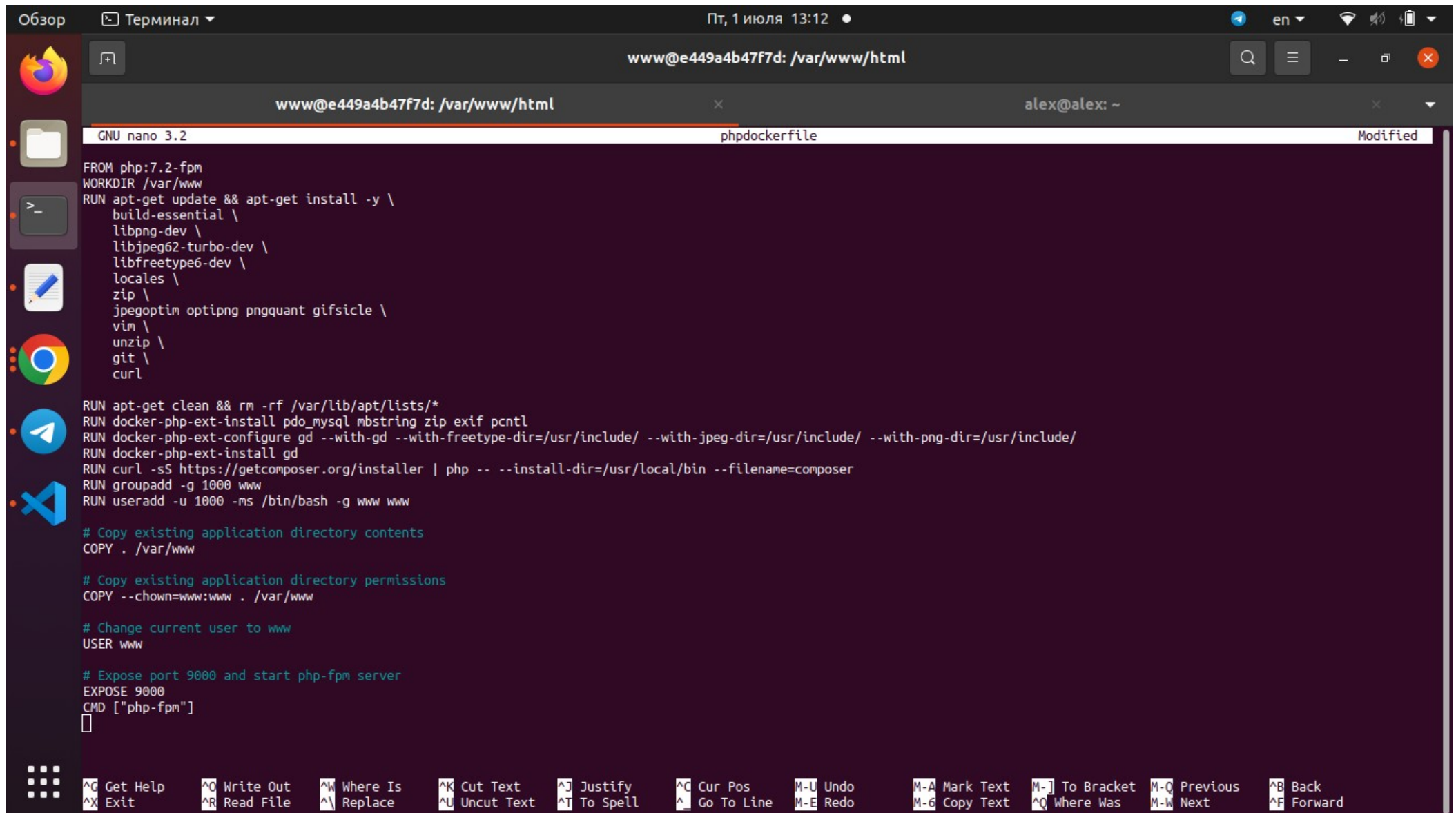
Создал docker-compose.yml



```
Обзор  Терминал  Пт, 1 июля 13:10  en  [Icons]
www@e449a4b47f7d: /var/www/html
www@e449a4b47f7d: /var/www/html  alex@alex: ~
GNU nano 3.2  docker-compose.yml  Modified
db:
  image: mysql
  networks:
    - laravel
  env_file: ./mysql/mysql.env
  command: --default-authentication-plugin=mysql_native_password
  restart: always
  volumes:
    - ./mysql:/var/lib/mysql/
  ports:
    - 33060:33060
    - 3306:3306
  environment:
    MYSQL_ROOT_PASSWORD: 111111
    MYSQL_DATABASE: example_database
    MYSQL_USER: example_user
    MYSQL_PASSWORD: 111111
adminer:
  image: adminer
  networks:
    - laravel
  restart: always
  ports:
    - 8080:8080

^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text  ^J Justify  ^C Cur Pos  M-U Undo  M-A Mark Text  M-] To Bracket  M-Q Previous  ^B Back
^X Exit      ^R Read File  ^_ Replace  ^U Uncut Text  ^T To Spell  ^_ Go To Line  M-E Redo  M-6 Copy Text  ^O Where Was  M-W Next  ^F Forward
```

Создал phpdockerfile



```
Обзор  Терминал  Пт, 1 июля 13:12
www@e449a4b47f7d: /var/www/html

GNU nano 3.2  phpdockerfile  Modified

FROM php:7.2-fpm
WORKDIR /var/www
RUN apt-get update && apt-get install -y \
    build-essential \
    libpng-dev \
    libjpeg62-turbo-dev \
    libfreetype6-dev \
    locales \
    zip \
    jpegoptim optipng pngquant gifsicle \
    vim \
    unzip \
    git \
    curl

RUN apt-get clean && rm -rf /var/lib/apt/lists/*
RUN docker-php-ext-install pdo_mysql mbstring zip exif pcntl
RUN docker-php-ext-configure gd --with-gd --with-freetype-dir=/usr/include/ --with-jpeg-dir=/usr/include/ --with-png-dir=/usr/include/
RUN docker-php-ext-install gd
RUN curl -sS https://getcomposer.org/installer | php -- --install-dir=/usr/local/bin --filename=composer
RUN groupadd -g 1000 www
RUN useradd -u 1000 -ms /bin/bash -g www www

# Copy existing application directory contents
COPY . /var/www

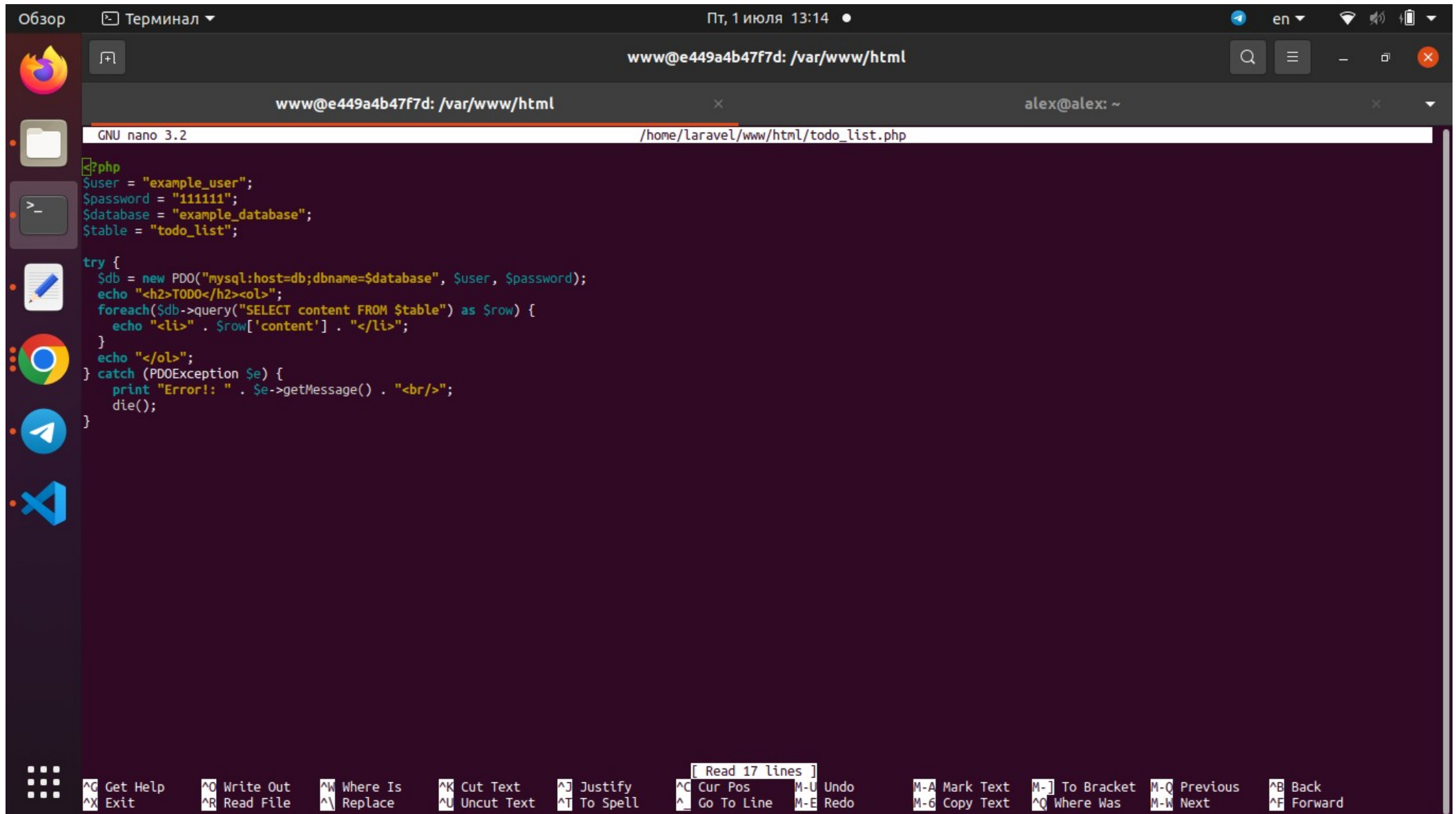
# Copy existing application directory permissions
COPY --chown=www:www . /var/www

# Change current user to www
USER www

# Expose port 9000 and start php-fpm server
EXPOSE 9000
CMD ["php-fpm"]

^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text   ^J Justify   ^C Cur Pos   M-U Undo     M-A Mark Text M-] To Bracket M-Q Previous ^B Back
^X Exit      ^R Read File  ^_ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line M-E Redo     M-6 Copy Text M-] Where Was M-W Next     ^F Forward
```

Создал todo_list.php



```
Обзор  Терминал  Пт, 1 июля 13:14  en  [network icons]

www@e449a4b47f7d: /var/www/html

GNU nano 3.2  /home/laravel/www/html/todo_list.php

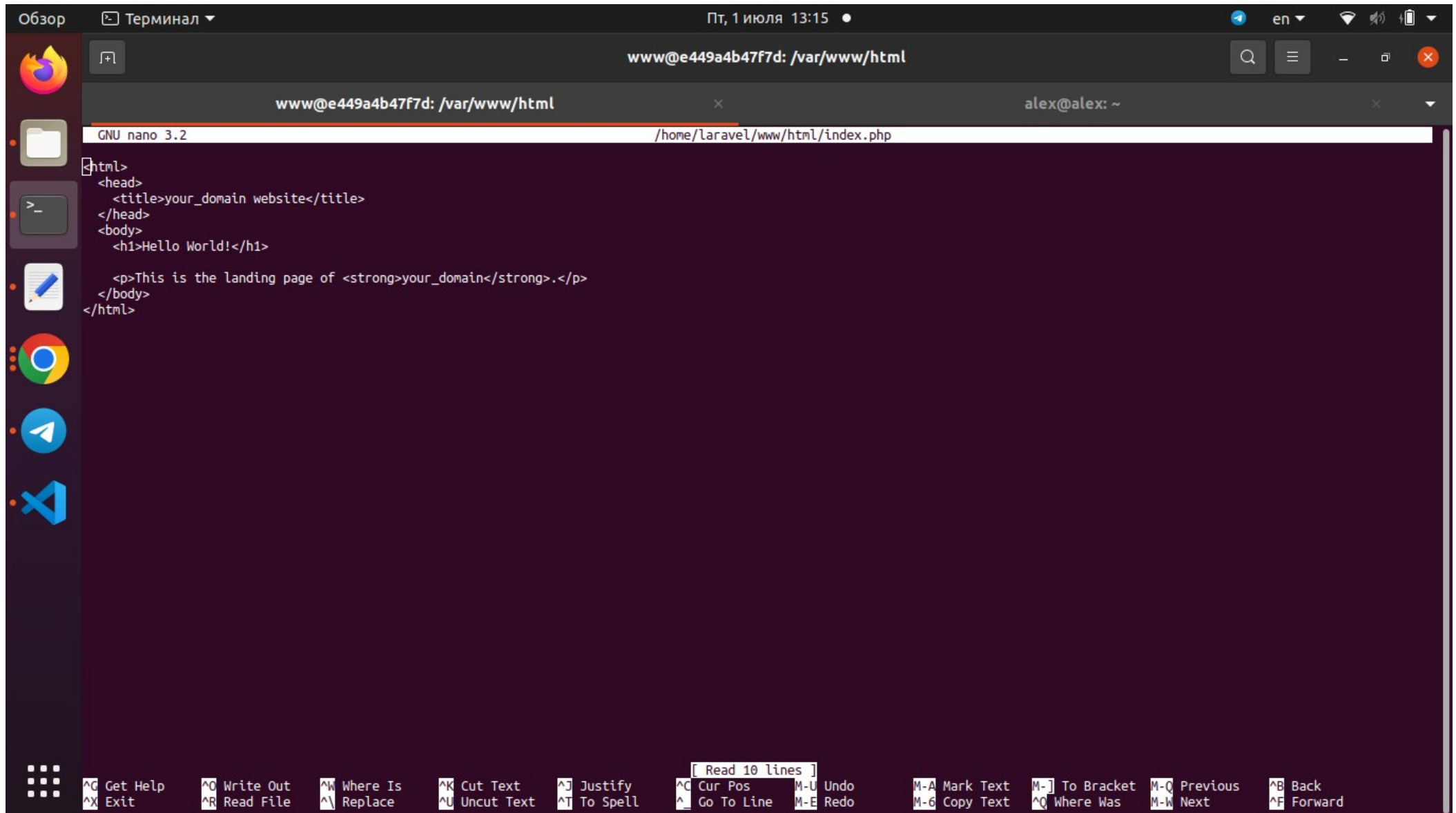
<?php
$user = "example_user";
$password = "111111";
$database = "example_database";
$table = "todo_list";

try {
    $db = new PDO("mysql:host=db;dbname=$database", $user, $password);
    echo "<h2>TODO</h2><ol>";
    foreach($db->query("SELECT content FROM $table") as $row) {
        echo "<li>" . $row['content'] . "</li>";
    }
    echo "</ol>";
} catch (PDOException $e) {
    print "Error!: " . $e->getMessage() . "<br/>";
    die();
}
```

[Read 17 lines]

^G Get Help	^O Write Out	^W Where Is	^K Cut Text	^J Justify	^C Cur Pos	M-U Undo	M-A Mark Text	M-] To Bracket	M-Q Previous	^B Back
^X Exit	^R Read File	^_ Replace	^U Uncut Text	^T To Spell	^_ Go To Line	M-E Redo	M-6 Copy Text	^Q Where Was	M-W Next	^F Forward

Создал index.php



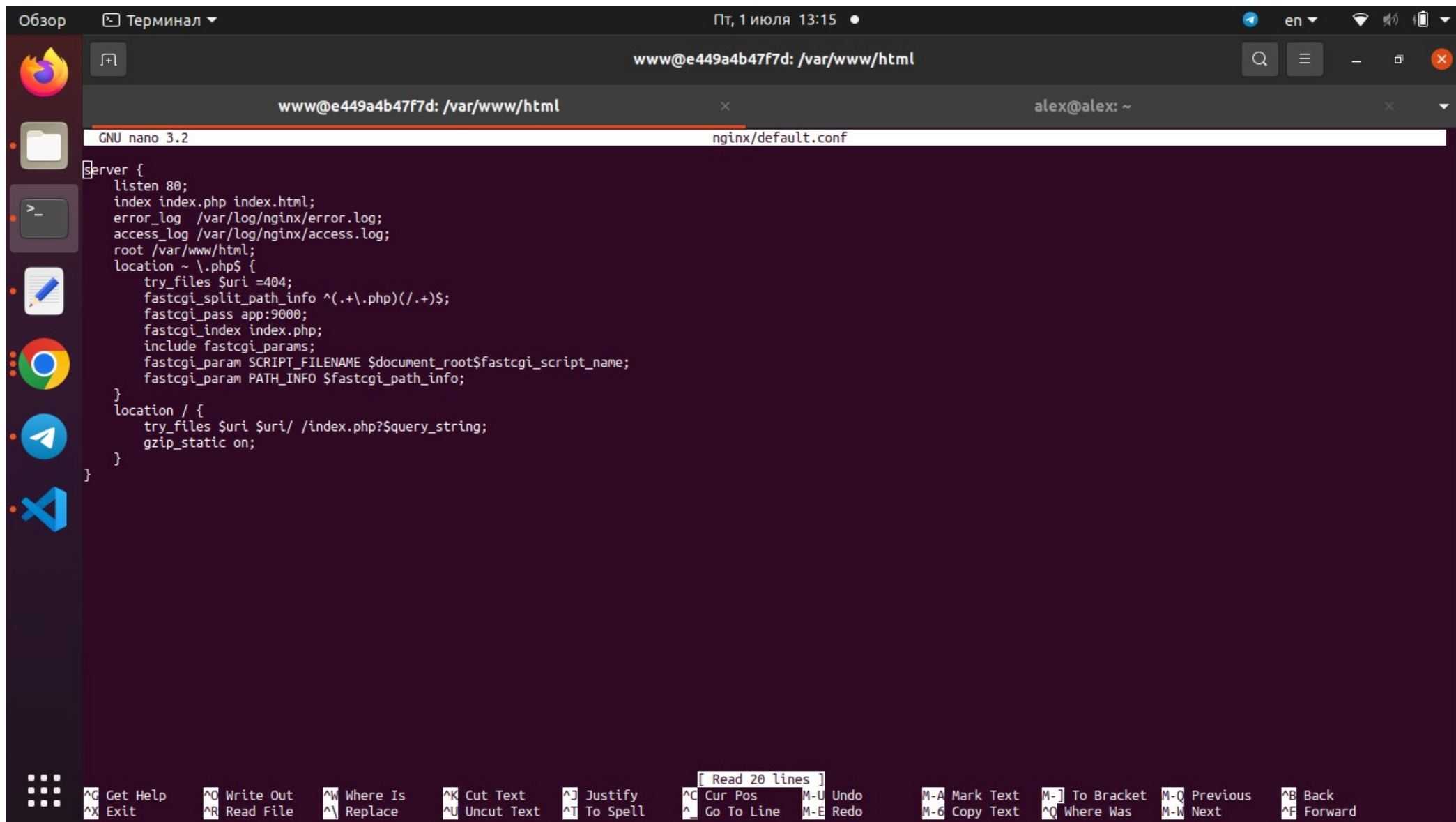
The screenshot shows a terminal window with a dark theme. The top bar indicates the current directory is `/var/www/html` and the user is `alex@alex`. The terminal title is `www@e449a4b47f7d: /var/www/html`. The nano editor is open, editing `/home/laravel/www/html/index.php`. The file content is as follows:

```
html>
<head>
  <title>your_domain website</title>
</head>
<body>
  <h1>Hello World!</h1>

  <p>This is the landing page of <strong>your_domain</strong>.</p>
</body>
</html>
```

The bottom status bar of the nano editor displays various keyboard shortcuts for navigation and editing, such as `^G Get Help`, `^O Write Out`, `^W Where Is`, `^K Cut Text`, `^J Justify`, `^C Cur Pos`, `M-U Undo`, `M-A Mark Text`, `M-] To Bracket`, `M-Q Previous`, `^B Back`, `^X Exit`, `^R Read File`, `^_ Replace`, `^U Uncut Text`, `^T To Spell`, `^_ Go To Line`, `M-E Redo`, `M-6 Copy Text`, `^O Where Was`, `M-W Next`, and `^F Forward`. A small tooltip `[Read 10 lines]` is visible above the `^C Cur Pos` shortcut.

Создал nginx conf



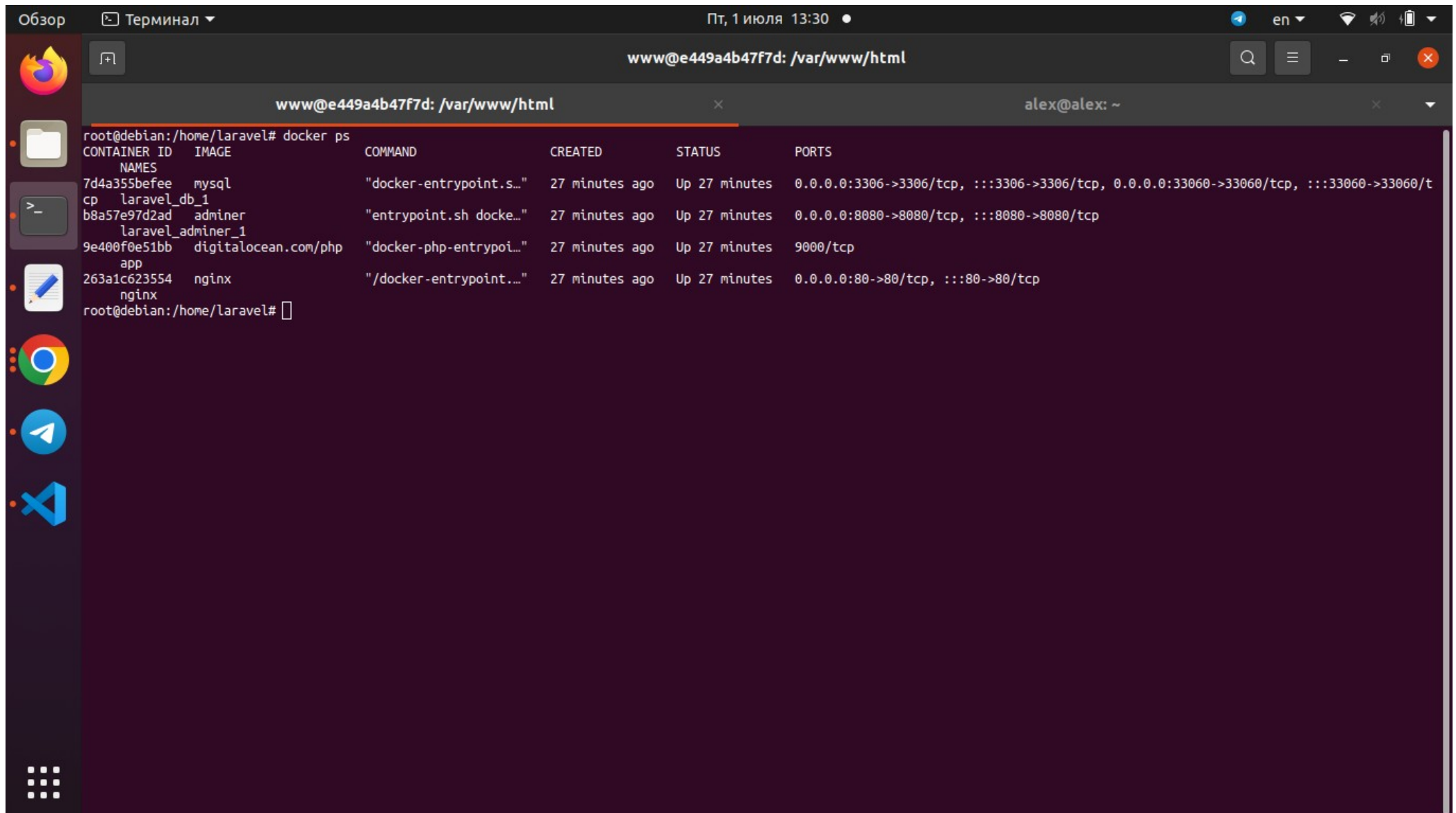
```
server {
    listen 80;
    index index.php index.html;
    error_log /var/log/nginx/error.log;
    access_log /var/log/nginx/access.log;
    root /var/www/html;
    location ~ \.php$ {
        try_files $uri =404;
        fastcgi_split_path_info ^(.+\.php)(/.+)$;
        fastcgi_pass app:9000;
        fastcgi_index index.php;
        include fastcgi_params;
        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
        fastcgi_param PATH_INFO $fastcgi_path_info;
    }
    location / {
        try_files $uri $uri/ /index.php?$query_string;
        gzip_static on;
    }
}
```

GNU nano 3.2 nginx/default.conf

Read 20 lines

Get Help Write Out Where Is Cut Text Justify Cur Pos M-U Undo M-A Mark Text M-] To Bracket M-Q Previous ^B Back
Exit Read File Replace Uncut Text To Spell Go To Line M-E Redo M-6 Copy Text ^O Where Was M-W Next ^F Forward

Вывод команды docker ps. Все запустилось корректно.

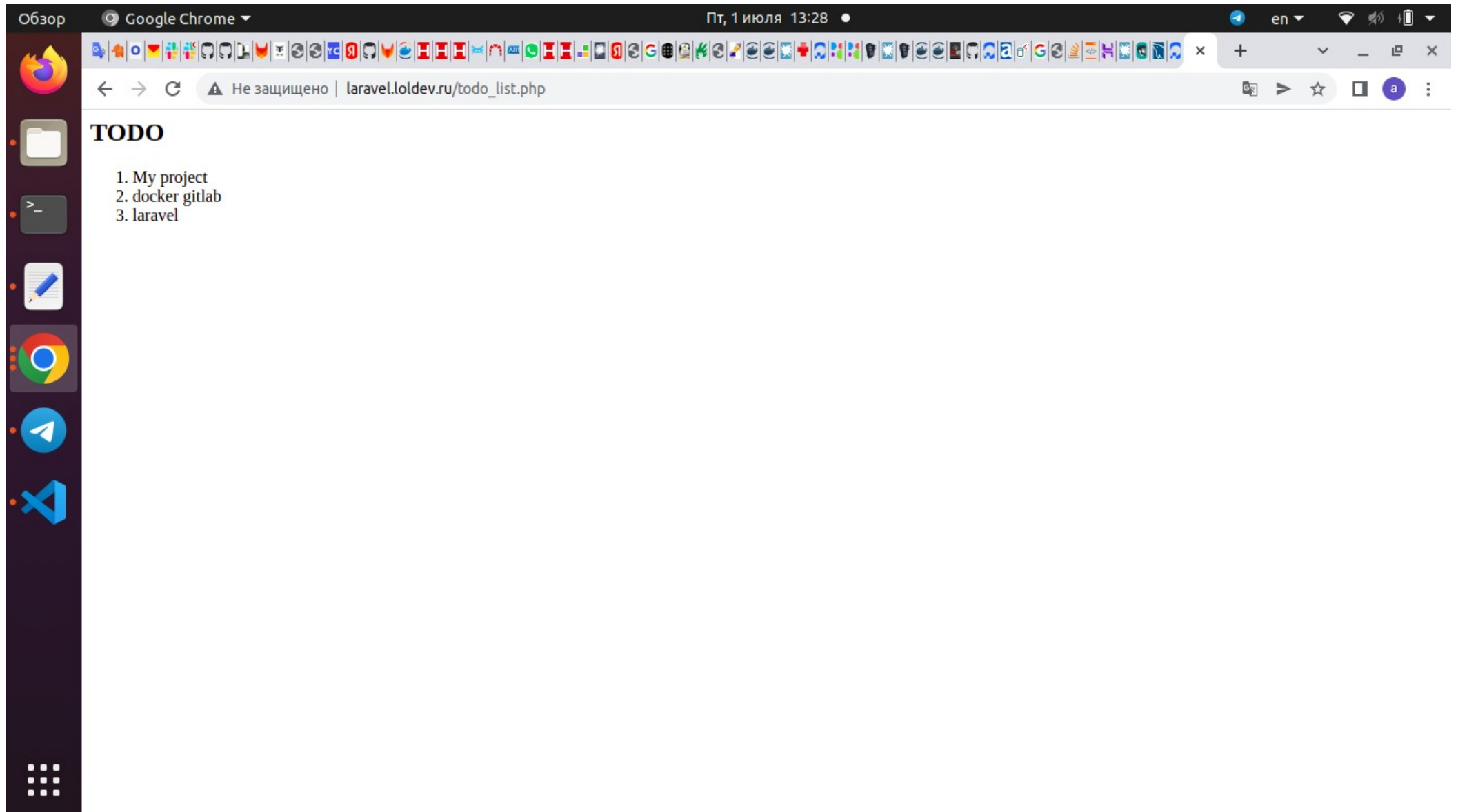


```
root@debian:/home/laravel# docker ps
```

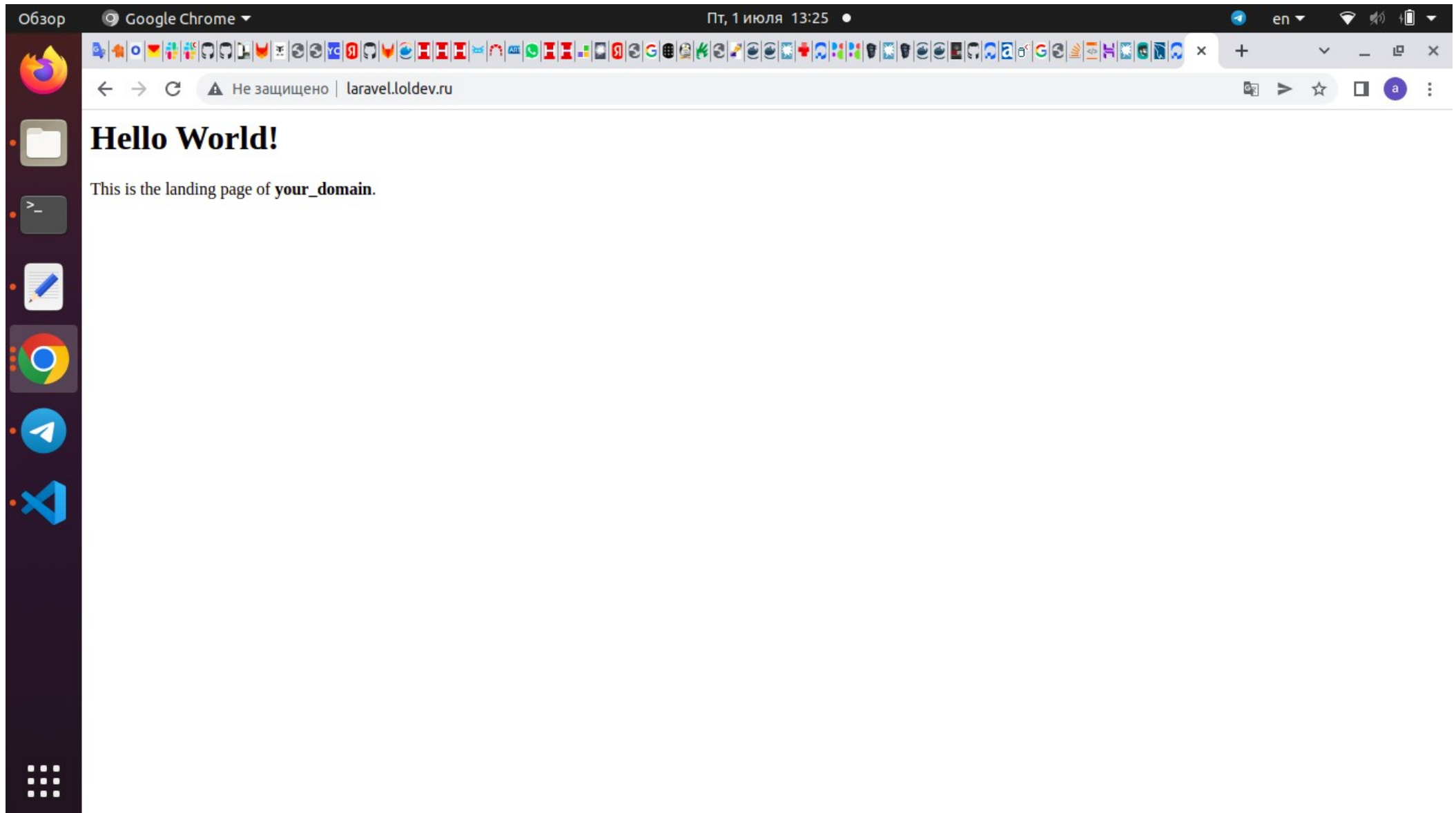
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
7d4a355befee	mysql	"docker-entrypoint.s..."	27 minutes ago	Up 27 minutes	0.0.0.0:3306->3306/tcp, :::3306->3306/tcp, 0.0.0.0:33060->33060/tcp, :::33060->33060/t
cp laravel_db_1					
b8a57e97d2ad	adminer	"entrypoint.sh docke..."	27 minutes ago	Up 27 minutes	0.0.0.0:8080->8080/tcp, :::8080->8080/tcp
laravel_adminer_1					
9e400f0e51bb	digitalocean.com/php	"docker-php-entrypoi..."	27 minutes ago	Up 27 minutes	9000/tcp
app					
263a1c623554	nginx	"/docker-entrypoint...."	27 minutes ago	Up 27 minutes	0.0.0.0:80->80/tcp, :::80->80/tcp
nginx					

```
root@debian:/home/laravel#
```

Страница сайта laravel.loldev.ru

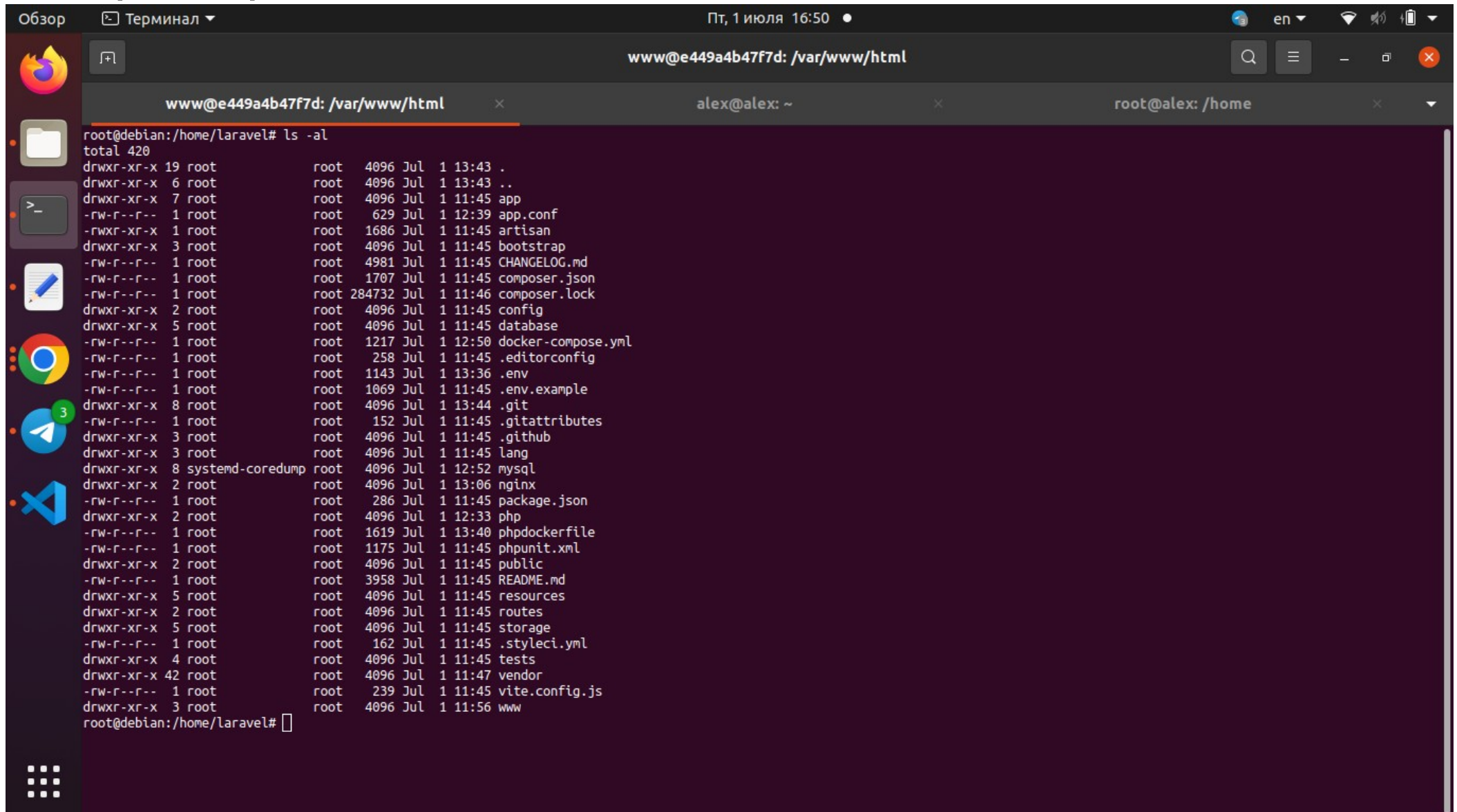


Страница сайта laravel.loldev.ru/todo_list.php



Задание 4. Настройка Laravel, Nginx и MySQL с Docker Compose

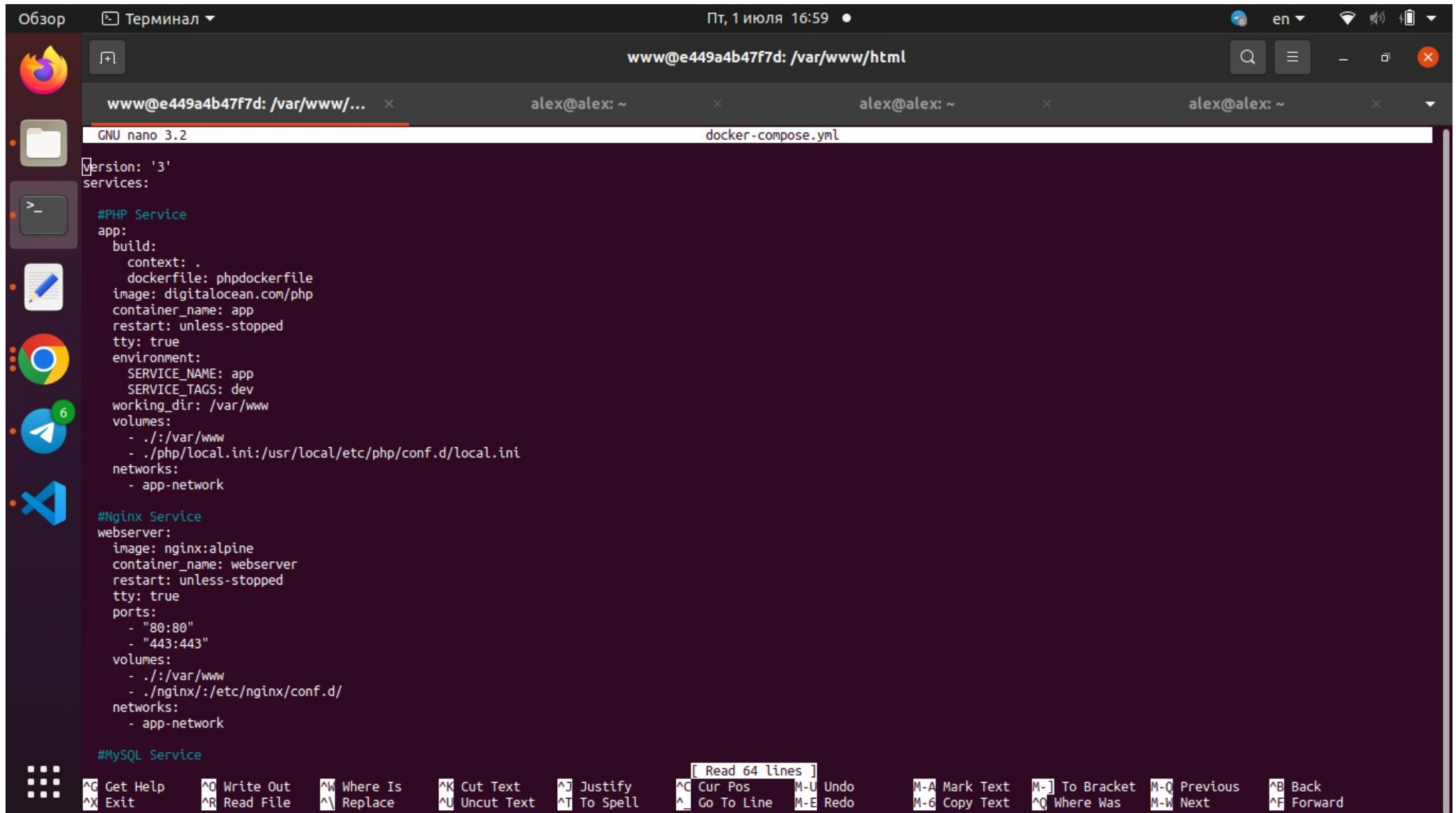
- Директория



The screenshot shows a terminal window with a dark background. The terminal title bar indicates the user is root@e449a4b47f7d in the directory /var/www/html. The terminal content shows the command `ls -al` being executed, resulting in a detailed directory listing of the Laravel project files and folders. The listing includes permissions, owner, size, date, and filename for each item.

```
root@e449a4b47f7d: /var/www/html# ls -al
total 420
drwxr-xr-x 19 root      root    4096 Jul  1 13:43 .
drwxr-xr-x  6 root      root    4096 Jul  1 13:43 ..
drwxr-xr-x  7 root      root    4096 Jul  1 11:45 app
-rw-r--r--  1 root      root     629 Jul  1 12:39 app.conf
-rwxr-xr-x  1 root      root    1686 Jul  1 11:45 artisan
drwxr-xr-x  3 root      root    4096 Jul  1 11:45 bootstrap
-rw-r--r--  1 root      root    4981 Jul  1 11:45 CHANGELOG.md
-rw-r--r--  1 root      root    1707 Jul  1 11:45 composer.json
-rw-r--r--  1 root      root   284732 Jul  1 11:46 composer.lock
drwxr-xr-x  2 root      root    4096 Jul  1 11:45 config
drwxr-xr-x  5 root      root    4096 Jul  1 11:45 database
-rw-r--r--  1 root      root    1217 Jul  1 12:50 docker-compose.yml
-rw-r--r--  1 root      root     258 Jul  1 11:45 .editorconfig
-rw-r--r--  1 root      root    1143 Jul  1 13:36 .env
-rw-r--r--  1 root      root    1069 Jul  1 11:45 .env.example
drwxr-xr-x  8 root      root    4096 Jul  1 13:44 .git
-rw-r--r--  1 root      root     152 Jul  1 11:45 .gitattributes
drwxr-xr-x  3 root      root    4096 Jul  1 11:45 .github
drwxr-xr-x  3 root      root    4096 Jul  1 11:45 lang
drwxr-xr-x  8 systemd-coredump root    4096 Jul  1 12:52 mysql
drwxr-xr-x  2 root      root    4096 Jul  1 13:06 nginx
-rw-r--r--  1 root      root     286 Jul  1 11:45 package.json
drwxr-xr-x  2 root      root    4096 Jul  1 12:33 php
-rw-r--r--  1 root      root    1619 Jul  1 13:40 phpdockerfile
-rw-r--r--  1 root      root    1175 Jul  1 11:45 phpunit.xml
drwxr-xr-x  2 root      root    4096 Jul  1 11:45 public
-rw-r--r--  1 root      root    3958 Jul  1 11:45 README.md
drwxr-xr-x  5 root      root    4096 Jul  1 11:45 resources
drwxr-xr-x  2 root      root    4096 Jul  1 11:45 routes
drwxr-xr-x  5 root      root    4096 Jul  1 11:45 storage
-rw-r--r--  1 root      root     162 Jul  1 11:45 .styleci.yml
drwxr-xr-x  4 root      root    4096 Jul  1 11:45 tests
drwxr-xr-x 42 root      root    4096 Jul  1 11:47 vendor
-rw-r--r--  1 root      root     239 Jul  1 11:45 vite.config.js
drwxr-xr-x  3 root      root    4096 Jul  1 11:56 www
root@e449a4b47f7d: /var/www/html#
```

Создал docker-compose.yml



```
Обзор Терминал ▼ Пт, 1 июля 16:59 • en ▼
www@e449a4b47f7d: /var/www/html
GNU nano 3.2 docker-compose.yml
Version: '3'
services:

#PHP Service
app:
  build:
    context: .
    dockerfile: phpdockerfile
  image: digitalocean.com/php
  container_name: app
  restart: unless-stopped
  tty: true
  environment:
    SERVICE_NAME: app
    SERVICE_TAGS: dev
  working_dir: /var/www
  volumes:
    - ./:/var/www
    - ./php/local.ini:/usr/local/etc/php/conf.d/local.ini
  networks:
    - app-network

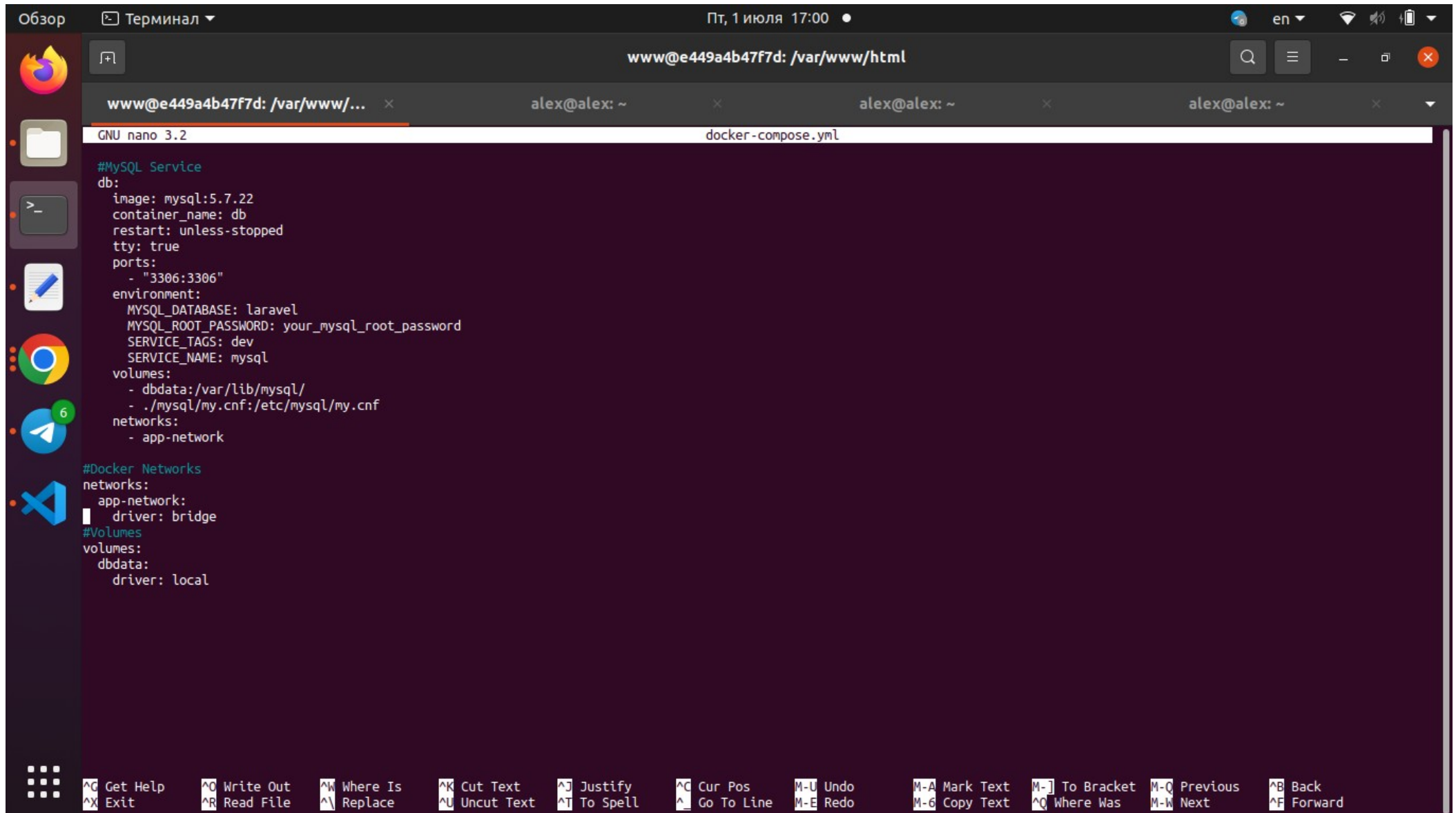
#Nginx Service
webserver:
  image: nginx:alpine
  container_name: webserver
  restart: unless-stopped
  tty: true
  ports:
    - "80:80"
    - "443:443"
  volumes:
    - ./:/var/www
    - ./nginx:/etc/nginx/conf.d/
  networks:
    - app-network

#MySQL Service
```

[Read 64 lines]

^G Get Help	^O Write Out	^W Where Is	^K Cut Text	^J Justify	^C Cur Pos	M-U Undo	M-A Mark Text	M-] To Bracket	M-Q Previous	^B Back
^X Exit	^R Read File	^_ Replace	^U Uncut Text	^T To Spell	^_ Go To Line	M-E Redo	M-6 Copy Text	^O Where Was	M-W Next	^F Forward

Создал docker-compose.yml



```
Обзор Терминал ▼ ПТ, 1 июля 17:00 • en ▼
www@e449a4b47f7d: /var/www/html
www@e449a4b47f7d: /var/www/... x alex@alex: ~ x alex@alex: ~ x alex@alex: ~
GNU nano 3.2 docker-compose.yml

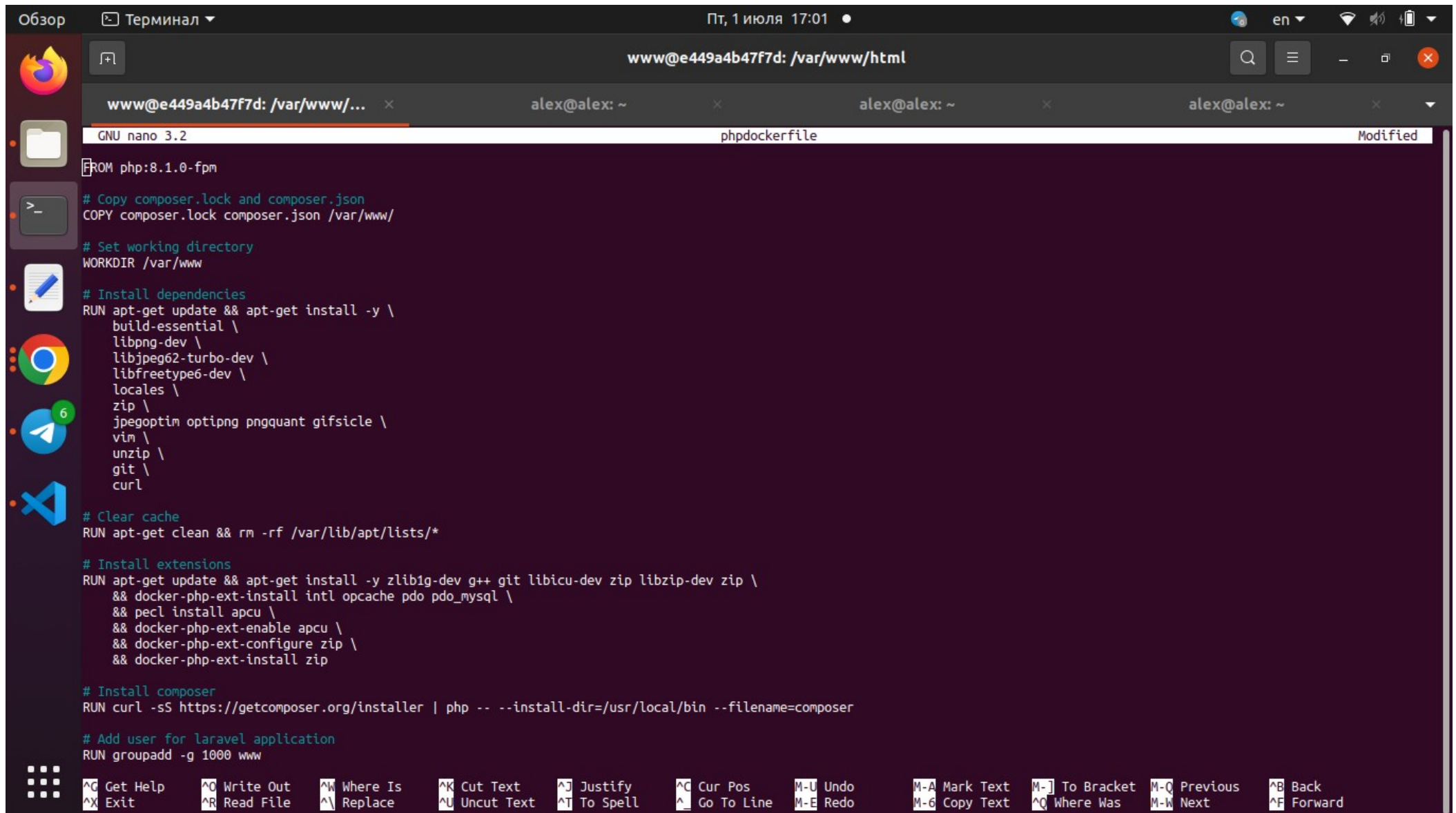
#MySQL Service
db:
  image: mysql:5.7.22
  container_name: db
  restart: unless-stopped
  tty: true
  ports:
    - "3306:3306"
  environment:
    MYSQL_DATABASE: laravel
    MYSQL_ROOT_PASSWORD: your_mysql_root_password
    SERVICE_TAGS: dev
    SERVICE_NAME: mysql
  volumes:
    - dbdata:/var/lib/mysql/
    - ./mysql/my.cnf:/etc/mysql/my.cnf
  networks:
    - app-network

#Docker Networks
networks:
  app-network:
    driver: bridge

#Volumes
volumes:
  dbdata:
    driver: local

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo M-A Mark Text M-] To Bracket M-Q Previous ^B Back
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line M-E Redo M-6 Copy Text ^O Where Was M-W Next ^F Forward
```

Создал phpdockerfile



```
Обзор  Терминал  Пт, 1 июля 17:01  en  [network icon] [sound icon] [battery icon]
www@e449a4b47f7d: /var/www/html
www@e449a4b47f7d: /var/www/...  alex@alex: ~  alex@alex: ~  alex@alex: ~
GNU nano 3.2  phpdockerfile  Modified
FROM php:8.1.0-fpm

# Copy composer.lock and composer.json
COPY composer.lock composer.json /var/www/

# Set working directory
WORKDIR /var/www

# Install dependencies
RUN apt-get update && apt-get install -y \
    build-essential \
    libpng-dev \
    libjpeg62-turbo-dev \
    libfreetype6-dev \
    locales \
    zip \
    jpegoptim optipng pngquant gifsicle \
    vim \
    unzip \
    git \
    curl

# Clear cache
RUN apt-get clean && rm -rf /var/lib/apt/lists/*

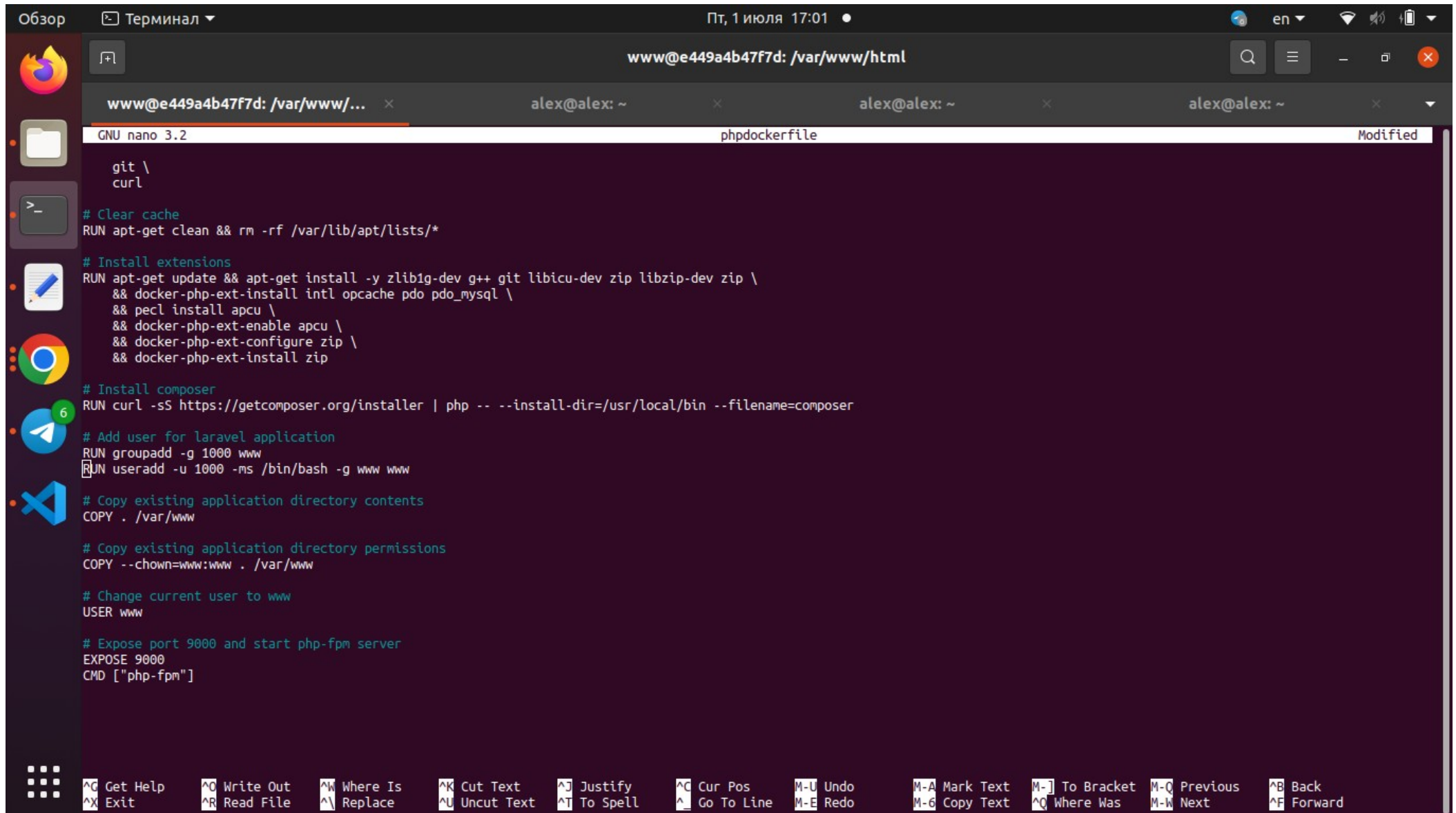
# Install extensions
RUN apt-get update && apt-get install -y zlib1g-dev g++ git libicu-dev zip libzip-dev zip \
    && docker-php-ext-install intl opcache pdo pdo_mysql \
    && pecl install apcu \
    && docker-php-ext-enable apcu \
    && docker-php-ext-configure zip \
    && docker-php-ext-install zip

# Install composer
RUN curl -sS https://getcomposer.org/installer | php -- --install-dir=/usr/local/bin --filename=composer

# Add user for laravel application
RUN groupadd -g 1000 www
```

⌘ Get Help ⌘ Write Out ⌘ Where Is ⌘ Cut Text ⌘ Justify ⌘ Cur Pos ⌘ M-U Undo ⌘ M-A Mark Text ⌘ M-] To Bracket ⌘ M-Q Previous ⌘ B Back
⌘ X Exit ⌘ R Read File ⌘ Replace ⌘ U Uncut Text ⌘ T To Spell ⌘ Go To Line ⌘ M-E Redo ⌘ M-6 Copy Text ⌘ M-0 Where Was ⌘ M-W Next ⌘ F Forward

Создал phpdockerfile



```
Обзор Терминал ▼ ПТ, 1 июля 17:01 • en ▼
www@e449a4b47f7d: /var/www/html
www@e449a4b47f7d: /var/www/... x alex@alex: ~ x alex@alex: ~ x alex@alex: ~
GNU nano 3.2 phpdockerfile Modified
git \
curl

# Clear cache
RUN apt-get clean && rm -rf /var/lib/apt/lists/*

# Install extensions
RUN apt-get update && apt-get install -y zlib1g-dev g++ git libicu-dev zip libzip-dev zip \
    && docker-php-ext-install intl opcache pdo pdo_mysql \
    && pecl install apcu \
    && docker-php-ext-enable apcu \
    && docker-php-ext-configure zip \
    && docker-php-ext-install zip

# Install composer
RUN curl -sS https://getcomposer.org/installer | php -- --install-dir=/usr/local/bin --filename=composer

# Add user for laravel application
RUN groupadd -g 1000 www
RUN useradd -u 1000 -ms /bin/bash -g www www

# Copy existing application directory contents
COPY . /var/www

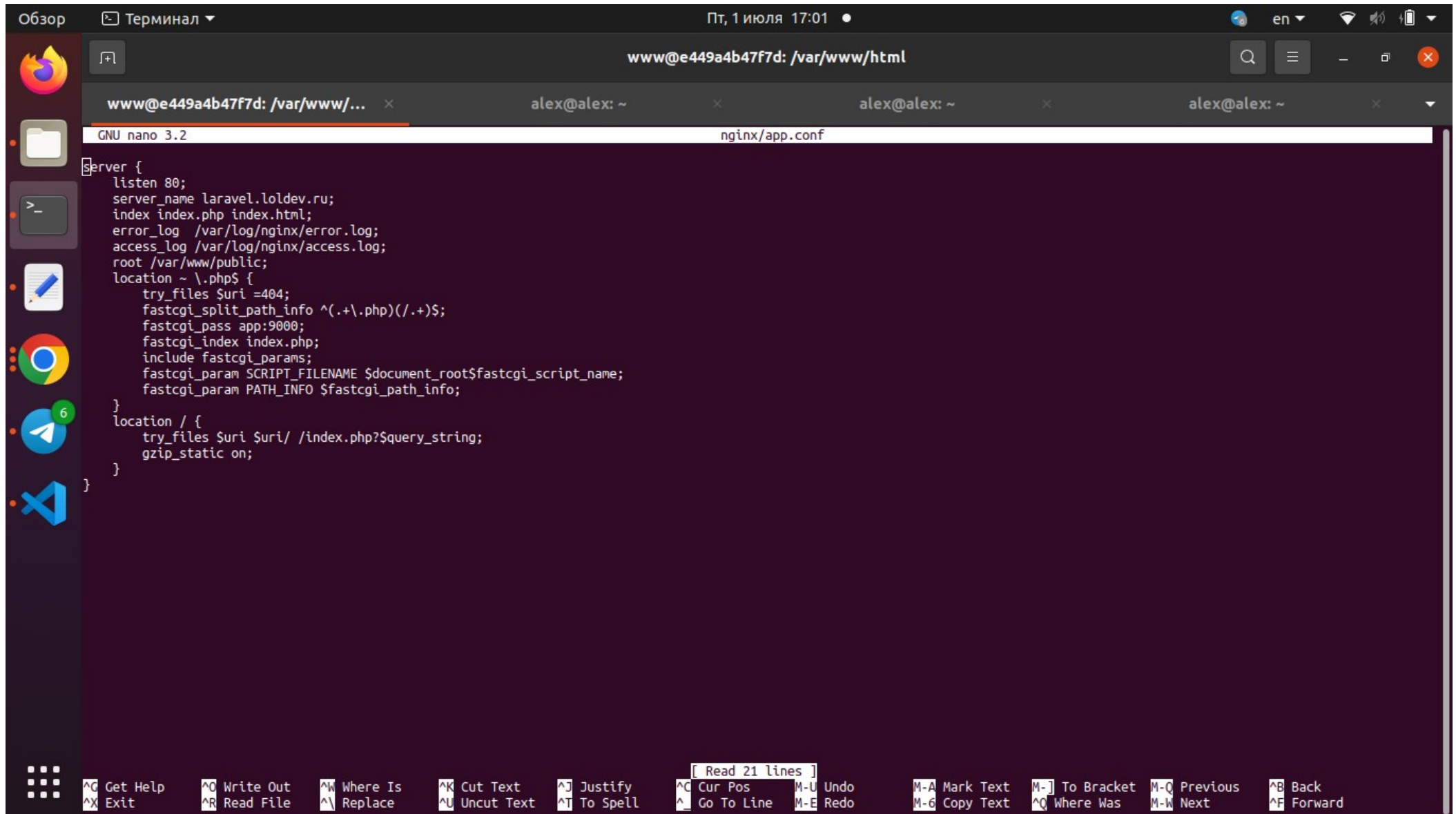
# Copy existing application directory permissions
COPY --chown=www:www . /var/www

# Change current user to www
USER www

# Expose port 9000 and start php-fpm server
EXPOSE 9000
CMD ["php-fpm"]

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo M-A Mark Text M-] To Bracket M-Q Previous ^B Back
^X Exit ^R Read File ^_ Replace ^U Uncut Text ^T To Spell ^_ Go To Line M-E Redo M-6 Copy Text ^O Where Was M-W Next ^F Forward
```

Создал nginx conf

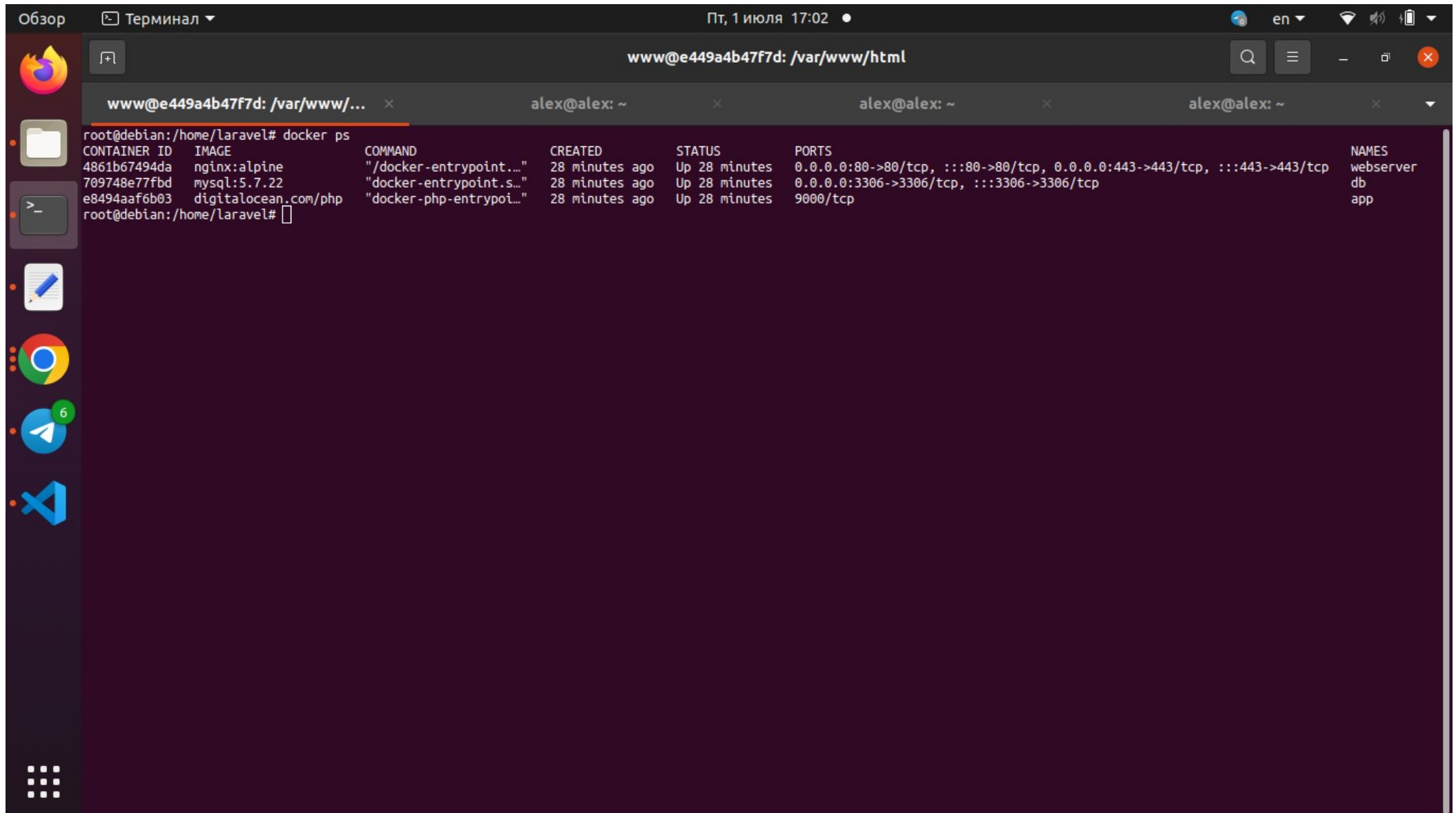


The screenshot shows a Linux desktop environment with a dark theme. The top panel displays the date and time as "Пт, 1 июля 17:01". The left sidebar contains icons for various applications, including Firefox, a file manager, a terminal, and a code editor. The main window is a terminal titled "www@e449a4b47f7d: /var/www/html", showing the GNU nano 3.2 text editor editing the file "nginx/app.conf". The configuration file content is as follows:

```
server {
    listen 80;
    server_name laravel.loldev.ru;
    index index.php index.html;
    error_log /var/log/nginx/error.log;
    access_log /var/log/nginx/access.log;
    root /var/www/public;
    location ~ \.php$ {
        try_files $uri =404;
        fastcgi_split_path_info ^(.+\.php)(/.+)$;
        fastcgi_pass app:9000;
        fastcgi_index index.php;
        include fastcgi_params;
        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
        fastcgi_param PATH_INFO $fastcgi_path_info;
    }
    location / {
        try_files $uri $uri/ /index.php?$query_string;
        gzip_static on;
    }
}
```

At the bottom of the terminal window, there is a status bar with various keyboard shortcuts and a "Read 21 lines" indicator.

Вывод команды docker ps. Значит все запущенно корректно



The screenshot shows a Linux desktop environment with a dark theme. A terminal window is open, displaying the output of the 'docker ps' command. The output is a table with columns: CONTAINER ID, IMAGE, COMMAND, CREATED, STATUS, PORTS, and NAMES. The table lists three containers: 'webserver', 'db', and 'app'. The 'webserver' container is based on 'nginx:alpine' and is listening on port 80. The 'db' container is based on 'mysql:5.7.22' and is listening on port 3306. The 'app' container is based on 'digitalocean.com/php' and is listening on port 9000. The terminal window is titled 'www@e449a4b47f7d: /var/www/html'. The desktop background is dark purple, and the left sidebar contains icons for Firefox, Files, and several other applications.

```
root@debian:/home/laravel# docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
4861b67494da	nginx:alpine	"/docker-entrypoint..."	28 minutes ago	Up 28 minutes	0.0.0.0:80->80/tcp, :::80->80/tcp, 0.0.0.0:443->443/tcp, :::443->443/tcp	webserver
709748e77fbd	mysql:5.7.22	"docker-entrypoint.s..."	28 minutes ago	Up 28 minutes	0.0.0.0:3306->3306/tcp, :::3306->3306/tcp	db
e8494aaf6b03	digitalocean.com/php	"docker-php-entrypoi..."	28 minutes ago	Up 28 minutes	9000/tcp	app

```
root@debian:/home/laravel#
```

Вывод страницы сайта laravel.loldev.ru. Выводит стартовую страницу ларавел.

