

НАПРАВЛЕНИЕ ПОДГОТОВКИ 09.03.03 «Прикладная информатика»

по лабораторной работе № 12

Дисциплина: Языки Интернет-программирования

Д. В. Малахов
(И.О. Фамилия)

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Цель работы: Получение практических навыков в создании веб-приложений, использующих аутентификацию. Получить навыки написания интеграционных тестов приложений.

Задание:

Модифицировать код приложения ЛР 8 таким образом, чтобы вычисление было невозможно без регистрации пользователя и аутентификации при помощи логина/пароля.

- Сгенерировать при помощи генератора scaffold ресурс для регистрации пользователей.
- Создать БД и выполнить миграцию соответствующим запросом rake.
- Проверить возможность добавления, редактирования информации и получения списка пользователей.
- Удалить отображение поля пароля при просмотре списка пользователей.
- Добавить контроллер сессий.
- Реализовать форму для ввода логина/пароля при обращении по адресу /. Добавить ссылку на регистрацию нового пользователя. При успешном вводе логина/пароля должно осуществляться перенаправление на страницу ввода параметров для вычисления.
- Реализовать при помощи контроллера сессий во всех действиях контроллера проверку о того, прошел ли пользователь аутентификацию или нет (с выдачей соответствующей отладочной информации).
- Вставить фильтры для запроса аутентификации.
- Подготовить интеграционный тест, позволяющий проверить регистрацию нового пользователя, вход под его именем и выполнение вычислений.
- Подготовить интеграционный тест для проверки невозможности выполнения вычислений без ввода логина/пароля.
- Проверить маршруты приложения с помощью rake routes и убрать лишние. Обеспечить доступ при обращении по адресу /.

Тексты измененных файлов

seq_controller.rb

```
# frozen_string_literal: true

# Top-level class
class SeqController < ApplicationController
  before_action :authenticate_user!
  def input; end

  def show
    params[:str] ? @str = params[:str] : nil
  end
end
```

```

    arr = @str.split&.map(&:to_i)

    if arr && !arr.empty?
      tmp = helpers.find_seqs(arr)
      @found = tmp.map { |x| x.join(' ') }.join(' | ')
      @max_found = helpers.find_max(tmp)
    else
      @max_found = @str
      @found = @str
    end
  end
end

private

def authenticate_user!
  if user_signed_in?
    puts "User #{current_user} is authenticated"
  else
    puts "User isn't authenticated"
    redirect_to new_user_session_path
  end
end
end

```

users_controller.rb

```

# frozen_string_literal: true

# top-level documentation
class UsersController < ApplicationController
  def show
    @user = current_user
  end

  def show_all
    @users = User.all
  end
end

```

seq_helper.rb

```

# frozen_string_literal: true

# top-level documentation
module SeqHelper
  def find_seqs(arr)
    found = []
    tmp_found = []

    arr.take(arr.size - 1).each_index do |i|
      tmp_found << arr[i]
      unless arr[i] < arr[i + 1]
        found << tmp_found
        tmp_found = []
      end
    end

    tmp_found << arr[-1]
    found << tmp_found
    found
  end

  def find_max(alr_found)
    sizes = alr_found.map(&:size)
    alr_found[sizes.index(sizes.max)]
  end
end

```

```
end
end
```

user.rb

```
# frozen_string_literal: true

class User < ApplicationRecord
  # Include default devise modules. Others available are:
  # :confirmable, :lockable, :timeoutable, :trackable and :omniauthable
  devise :database_authenticatable, :registerable,
         :recoverable, :rememberable, :validatable
end
```

application.html.erb

```
<!DOCTYPE html>
<html>
  <head>
    <title>Lab12</title>
    <meta name="viewport" content="width=device-width,initial-scale=1">
    <%= csrf_meta_tags %>
    <%= csp_meta_tag %>

    <%= stylesheet_link_tag "application", "data-turbo-track": "reload" %>
    <%= javascript_importmap_tags %>

    <!-- CSS only -->
  <link
href="https://cdn.jsdelivrivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"
rel="stylesheet"
integrity="sha384-
rbsA2VBKQhggwzxH7pPCaAqO44Mgn0M80zW1RWuH61DGLwZJEdK2Kadq2F9CUG65"
crossorigin="anonymous">
  <!-- JavaScript Bundle with Popper -->
  <script
src="https://cdn.jsdelivrivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-kenU1KFdBIe4zVF0s0G1M5b4hcxpyD9F7jL+jjXkk+Q2h455rYXK/
7HAuoJl+0I4" crossorigin="anonymous"></script>
    <style>
      #user_nav {
        font-size: 20px;
      }
    </style>
  </head>
  <body class="bg-light">
    <div class="col-md-10 mx-auto my-4 p-5 shadow">
      <div class="container">
        <% flash.each do |type, msg| %>
          <div class='alert alert-primary alert-dismissible' role="alert">
            <%= msg %>
            <button type="button" class="btn-close" data-bs-dismiss="alert" aria-
label="Close"></button>
          </div>
        <% end %>
      </div>
      <%= yield %>
    </div>
    <div class="col-md-3 mx-auto my-4 align-items-end" id="user_nav">
      <% if current_user %>
        <%= link_to "Edit Profile", edit_user_registration_path, 'data-turbo-
method': :update %> |
        <%= link_to "Show Profile", user_show_path, 'data-turbo-method': :show
%> |
      </div>
    </div>
  </body>
</html>
```

```

        <%= link_to "Log out", destroy_user_session_path, 'data-turbo-
method': :delete %>
      <% else %>
        <%= link_to "Sign Up", new_user_registration_path %> |
        <%= link_to "Log In", new_user_session_path %> |
        <%= link_to "Show users", "/users/show_all" %>
      <% end %>
    </div>
  </body>
</html>

```

devise/sessions/new.html.erb

<h2>Log in</h2>

```

<%= form_for(resource, as: resource_name, url: session_path(resource_name)) do |f|
%>
  <div class="field">
    <%= f.label :email %><br />
    <%= f.email_field :email, autofocus: true, autocomplete: "email" %>
  </div>

  <div class="field">
    <%= f.label :password %><br />
    <%= f.password_field :password, autocomplete: "current-password" %>
  </div>

  <% if devise_mapping.rememberable? %>
    <div class="field">
      <%= f.check_box :remember_me %>
      <%= f.label :remember_me %>
    </div>
  <% end %>

  <div class="actions">
    <%= f.submit "Log in", data: {turbo: false} %>
  </div>
<% end %>

<%= render "devise/shared/links" %>

```

devise/registrations/new.html.erb

<h2>Sign up</h2>

```

<%= form_for(resource, as: resource_name, url: registration_path(resource_name))
do |f| %>
  <%= render "devise/shared/error_messages", resource: resource %>

  <div class="field">
    <%= f.label :email %><br />
    <%= f.email_field :email, autofocus: true, autocomplete: "email" %>
  </div>

  <div class="field">
    <%= f.label :password %>
    <% if @minimum_password_length %>
    <em>(<%= @minimum_password_length %> characters minimum)</em>
    <% end %><br />
    <%= f.password_field :password, autocomplete: "new-password" %>
  </div>

  <div class="field">
    <%= f.label :password_confirmation %><br />

```

```

    <%= f.password_field :password_confirmation, autocomplete: "new-password" %>
  </div>

  <div class="actions">
    <%= f.submit "Sign up", data: {turbo: false} %>
  </div>
<% end %>
<%= render "devise/shared/links" %>

```

seq/input.html.erb

```

<h1 class="h1">Finding of growing sequences</h1>
<p>Print given, max sequence and all sequences </p>

<%= form_tag(show_path, :method => "get") do %>
  <%= label_tag("Input string:") %>
  <%= text_field_tag :str, params[:str], id: 'input' %> <br/>
  <br/>
  <%= submit_tag("Correct and print", class: 'btn btn-primary') %>
<% end %>

```

seq/show.html.erb

```

<h1 class="h1">Finding of growing sequences</h1>
<p>Print given, max sequence and all sequences </p>

<p id="str">str: <%= @str %></p>
<p id="max found: ">max found: <%= @max_found %></p>
<p id="found: ">found: <%= @found %></p>

<%= link_to "Repeat input", '/' %>

```

users/show.html.erb

```

<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <title>Пользователь</title>

  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css"
rel="stylesheet"
integrity="sha384-
Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeu0xjzrPF/et3URy9Bv1WTRi"
crossorigin="anonymous">

  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.bundle.min.js"
integrity="sha384-0ERcA2EqjJCMA+/3y+gxIOqMEjwtxJY7qPCqsdltbNJua0e923+mo//
f6V8Qbsw3" crossorigin="anonymous"></script>
  <link rel="stylesheet" href="view.css">
</head>

<body>
  <p><strong>email</strong> <%= @user.email %></p>
  <p><strong>created at</strong> <%= @user.created_at %></p>
  <p><strong>updated at</strong> <%= @user.updated_at %></p>
  <div class="price">
    <div class="row align-items-end">
      <div class="col">
        <%= button_to "Вернуться назад", root_path,
          :class => "btn btn-primary btn-lg active", :method => :get %>
      </div>
    </div>
  </div>
</body>

```

users/show_all.html.erb

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <title>Пользователи</title>

  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css"
rel="stylesheet"
integrity="sha384-
Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeu0xjzrPF/et3URy9Bv1WTRi"
crossorigin="anonymous">

  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.bundle.min.js"
integrity="sha384-0ERcA2EqjJCMA+/3y+gxIOqMEjwtxJY7qPCqsdltbNJua0e923+mo//
f6V8Qbsw3" crossorigin="anonymous"></script>
  <link rel="stylesheet" href="view.css">
</head>

<body>
  <div class="price">
    <div class="row align-items-end">
      <div class="col">
        <% @users.each do |user| %>
          <%= user.email %>
        </br>
        <% end %>
      </div>
      </br>
      <div class="col">
        <%= button_to "Вернуться назад", root_path,
          :class => "btn btn-primary ", :method => :get %>
      </div>
    </div>
  </div>
</body>
```

routes.html.erb

```
# frozen_string_literal: true
```

```
Rails.application.routes.draw do
  devise_for :users
  resources :users, only: [:index]
  root to: 'seq#input'
  get 'seq/show', as: :show
  get 'users/show', as: :user_show
  get '/users/sign_out'
  get '/users/show_all'
```

```
  # Define your application routes per the DSL in
https://guides.rubyonrails.org/routing.html
```

```
  # Defines the root path route ("/")
  # root "articles#index"
end
```

20221216104243 devise_create_users.rb

```
# frozen_string_literal: true
```

```
# top-level documentation
class DeviseCreateUsers < ActiveRecord::Migration[7.0]
  def change
    create_table :users do |t|
      ## Database authenticatable
```

```

    t.string :email, null: false, default: ''
    t.string :encrypted_password, null: false, default: ''

    ## Recoverable
    t.string :reset_password_token
    t.datetime :reset_password_sent_at

    ## Rememberable
    t.datetime :remember_created_at

    ## Trackable
    # t.integer :sign_in_count, default: 0, null: false
    # t.datetime :current_sign_in_at
    # t.datetime :last_sign_in_at
    # t.string :current_sign_in_ip
    # t.string :last_sign_in_ip

    ## Confirmable
    # t.string :confirmation_token
    # t.datetime :confirmed_at
    # t.datetime :confirmation_sent_at
    # t.string :unconfirmed_email # Only if using reconfirmable

    ## Lockable
    # t.integer :failed_attempts, default: 0, null: false # Only if lock
strategy is :failed_attempts
    # t.string :unlock_token # Only if unlock strategy is :email or :both
    # t.datetime :locked_at

    t.timestamps null: false
end

add_index :users, :email, unique: true
add_index :users, :reset_password_token, unique: true
# add_index :users, :confirmation_token, unique: true
# add_index :users, :unlock_token, unique: true
end
end

```

schema.rb

```
# frozen_string_literal: true
```

```

# This file is auto-generated from the current state of the database. Instead
# of editing this file, please use the migrations feature of Active Record to
# incrementally modify your database, and then regenerate this schema definition.
#
# This file is the source Rails uses to define your schema when running `bin/rails
# db:schema:load`. When creating a new database, `bin/rails db:schema:load` tends
# to
# be faster and is potentially less error prone than running all of your
# migrations from scratch. Old migrations may fail to apply correctly if those
# migrations use external dependencies or application code.
#
# It's strongly recommended that you check this file into your version control
system.

```

```

ActiveRecord::Schema[7.0].define(version: 20_221_216_104_243) do
  create_table 'users', force: :cascade do |t|
    t.string 'email', default: '', null: false
    t.string 'encrypted_password', default: '', null: false
    t.string 'reset_password_token'
    t.datetime 'reset_password_sent_at'
    t.datetime 'remember_created_at'
    t.datetime 'created_at', null: false
  end
end

```



```

    t.datetime 'updated_at', null: false
    t.index ['email'], name: 'index_users_on_email', unique: true
    t.index ['reset_password_token'], name: 'index_users_on_reset_password_token',
unique: true
  end
end

```

spec/models/user_spec.rb

```
# frozen_string_literal: true
```

```
require 'spec_helper'
require 'rails_helper'
```

```

RSpec.describe Devise, type: :system do
  let(:email_user) { 'gar@amir.tat' }
  let(:password_user) { 'fweu98254jkbfbwiuygbwoiuybvSYHIUEF' }
  describe 'User sign up' do
    scenario 'sign up without params' do
      visit new_user_registration_path
      click_button 'Sign up'
      expect(page).to have_content("errors prohibited this user from being saved:\nEmail can't be blank\nPassword can't be blank\n")
    end

    scenario 'sign up without email' do
      visit new_user_registration_path
      fill_in 'Password', with: password_user
      fill_in 'Password confirmation', with: password_user
      click_button 'Sign up'
      expect(page).to have_content("error prohibited this user from being saved:\nEmail can't be blank\n")
    end

    scenario 'sign up without password' do
      visit new_user_registration_path
      fill_in 'Email', with: email_user
      fill_in 'Password confirmation', with: password_user
      click_button 'Sign up'
      expect(page).to have_content("Password confirmation doesn't match Password\n")
    end

    scenario 'sign up, but password confirmation does not match password' do
      visit new_user_registration_path
      fill_in 'Email', with: email_user
      fill_in 'Password', with: password_user
      fill_in 'Password confirmation', with: "#{password_user}1"
      click_button 'Sign up'
      expect(page).to have_content("Password confirmation doesn't match Password\n")
    end

    scenario 'sign up with correct params' do
      visit new_user_registration_path
      fill_in 'Email', with: email_user
      fill_in 'Password', with: password_user
      fill_in 'Password confirmation', with: password_user
      click_button 'Sign up'
      expect(page).to have_content("Welcome! You have signed up successfully.\n")
    end
  end
end

describe 'User sign in' do

```

```

before :each do
  visit new_user_registration_path
  fill_in 'Email', with: email_user
  fill_in 'Password', with: password_user
  fill_in 'Password confirmation', with: password_user
  click_button 'Sign up'
  click_link 'Log out'
end

scenario 'sign in without params' do
  visit new_user_session_path
  click_button 'Log in'
  expect(page).to have_content("Invalid Email or password.\n")
end

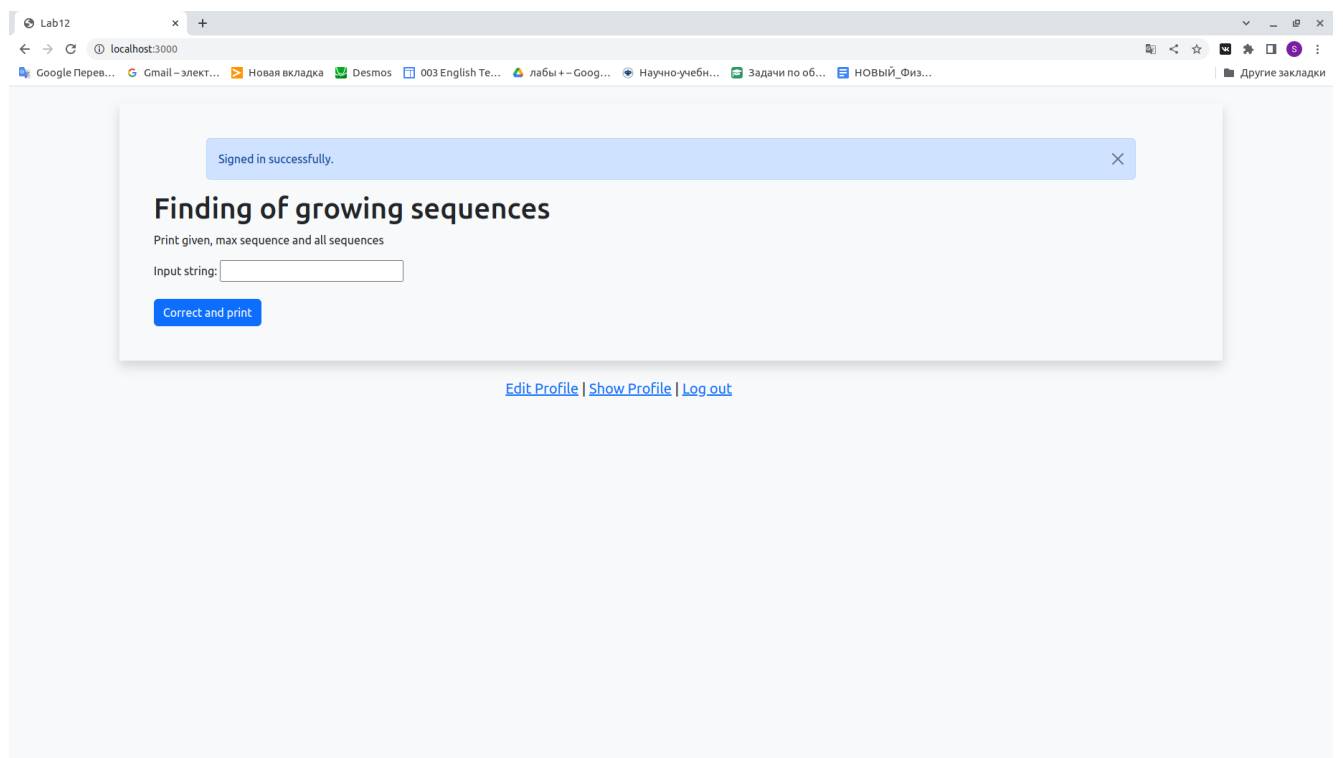
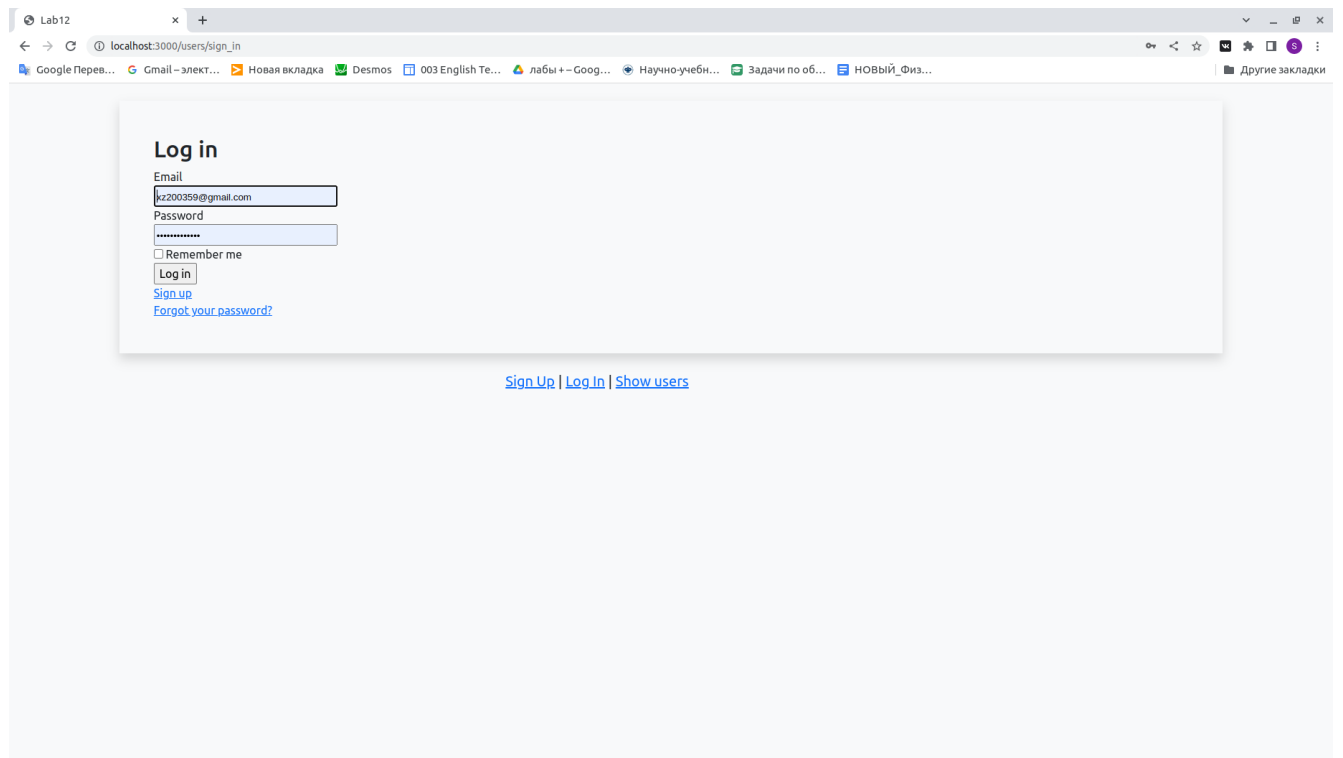
scenario 'sign in with params' do
  fill_in 'Email', with: email_user
  fill_in 'Password', with: password_user
  click_button 'Log in'
  expect(page).to have_content("Signed in successfully.\n")
end

scenario 'sign in with params and make calculations' do
  fill_in 'Email', with: email_user
  fill_in 'Password', with: password_user
  click_button 'Log in'
  fill_in 'input', with: '1 2 3 4 3 4 5 1 1 1 5 3 4 5 6 10 0 -1 -3'
  click_button 'Correct and print'
  expect(page).to have_current_path('/seq/show?
str=1+2+3+4+3+4+5+1+1+1+5+3+4+5+6+10+0+-1+-3&commit=Correct+and+print')
end
end

describe 'User try to make calculations' do
  scenario 'failure make calculations' do
    visit '/seq/show?str=1+2+3+4+3+4+5+1+1+1+5+3+4+5+6+10+0+-1+-
3&commit=Correct+and+print'
    expect(page).to have_current_path(new_user_session_path)
  end
end
end

```

Результаты выполнения:



Lab12

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localhost:3000/seq/show?str=1+2+3+4+3+4+5+1+1+1+5+3+4+5+6+10+0+1+3&commit=Correct+and+print

Google Перев... Gmail – элект... Новая вкладка Desmos 003 English Te... лабы + – Goog... Научно-учебн... Задачи по об... НОВЫЙ_Физ...

Другие закладки

Finding of growing sequences

Print given, max sequence and all sequences

str: 1 2 3 4 3 4 5 1 1 1 5 3 4 5 6 10 0 -1 -3

max found: 3 4 5 6 10

found: 1 2 3 4 | 3 4 5 | 1 | 1 | 1 5 | 3 4 5 6 10 | 0 | -1 | -3

[Repeat input](#)

[Edit Profile](#) | [Show Profile](#) | [Log out](#)

Lab12

+

localhost:3000/users/show

Google Перев... Gmail – элект... Новая вкладка Desmos 003 English Te... лабы + – Goog... Научно-учебн... Задачи по об... НОВЫЙ_Физ...

Другие закладки

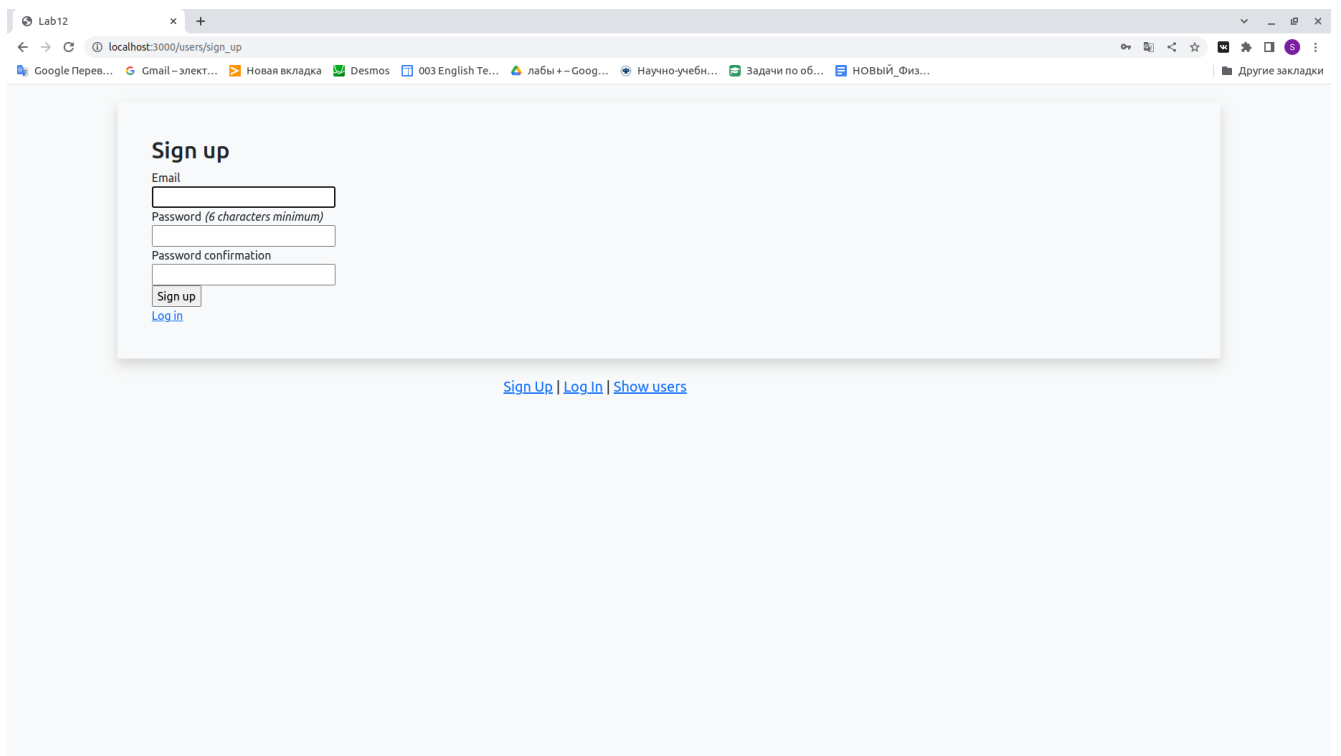
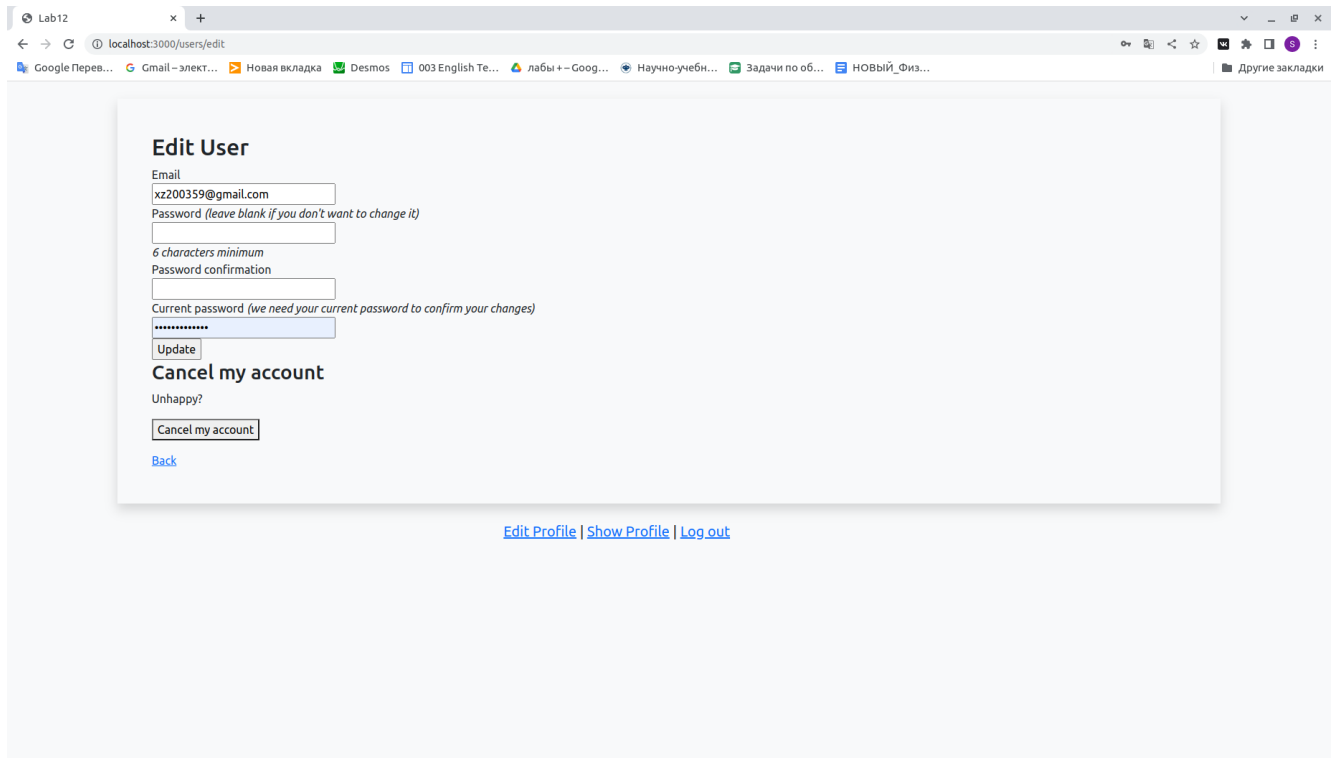
email xz200359@gmail.com

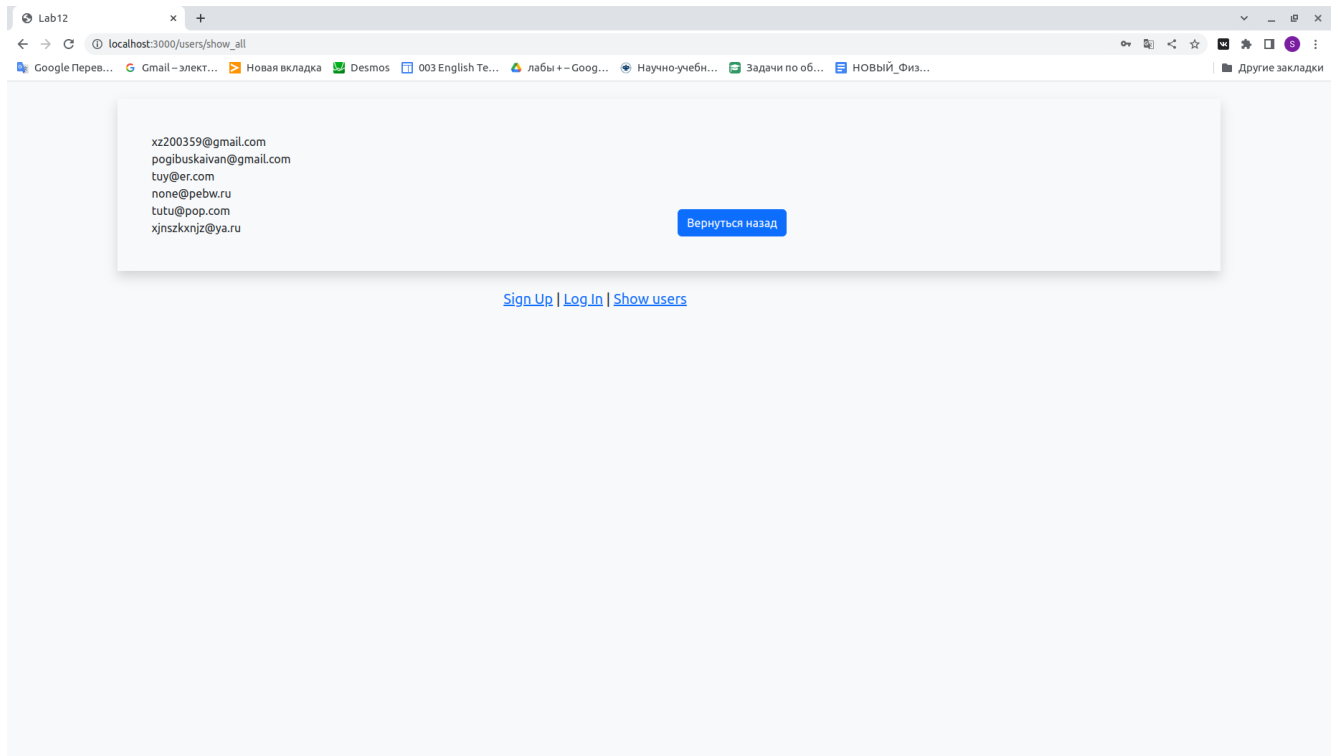
created at 2022-12-16 10:44:49 UTC

updated at 2022-12-16 10:44:49 UTC

[Вернуться назад](#)

[Edit Profile](#) | [Show Profile](#) | [Log out](#)





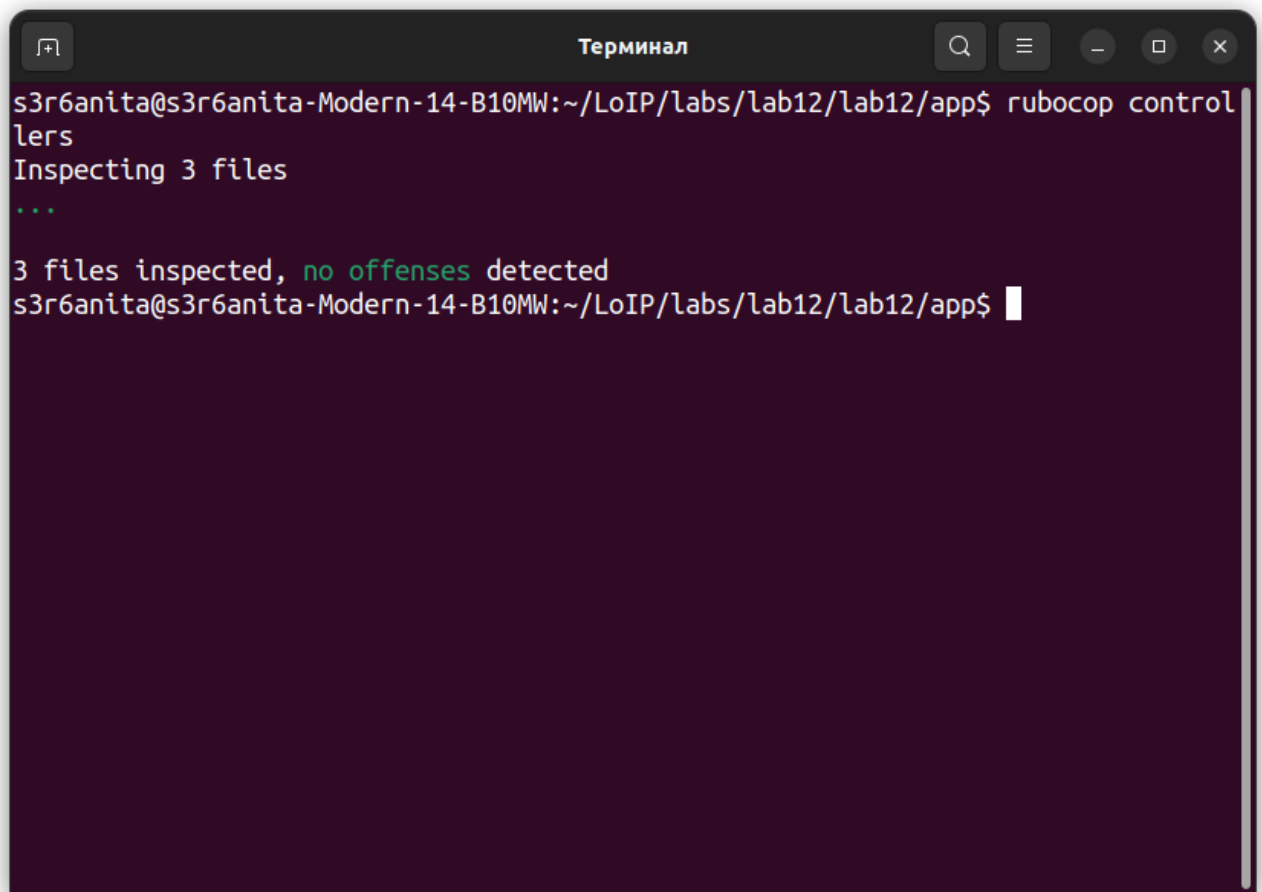
Тестирование:

```
Терминал
s3r6anita@s3r6anita-Modern-14-B10MW:~/LoIP/labs/lab12/lab12$ rails spec
/home/s3r6anita/.rbenv/versions/3.1.2/bin/ruby -I/home/s3r6anita/.rbenv/versions/3.1.2/lib/ruby/gems/3.1.0/gems/rspec-core-3.12.0/lib:/home/s3r6anita/.rbenv/versions/3.1.2/lib/ruby/gems/3.1.0/gems/rspec-support-3.12.0/lib /home/s3r6anita/.rbenv/versions/3.1.2/lib/ruby/gems/3.1.0/gems/rspec-core-3.12.0/exe/rspec --pattern spec/\*\*\{,/\*/\*\*\}/\*_spec.rb
DEBUGGER: Attaching after process 17039 fork to child process 17058
....User #<User:0x00007f76b0ca4828> is authenticated
.User #<User:0x00007f76b2eff328> is authenticated
User isn't authenticated
.User #<User:0x00007f76b2db19a8> is authenticated
User isn't authenticated
User #<User:0x00007f76b2f19368> is authenticated
.User #<User:0x00007f76b0de4d78> is authenticated
User isn't authenticated
User #<User:0x00007f76b28a54f0> is authenticated
User #<User:0x00007f76b239e628> is authenticated
[[1, 2, 3, 4], [3, 4, 5], [1], [1], [1, 5], [3, 4, 5, 6, 10], [0], [-1], [-3]]
.User isn't authenticated
.

Finished in 5.66 seconds (files took 0.8246 seconds to load)
9 examples, 0 failures

s3r6anita@s3r6anita-Modern-14-B10MW:~/LoIP/labs/lab12/lab12$
```

Результаты проверки анализатором rubocop:

A terminal window titled "Терминал" (Terminal) with a dark background. The prompt is "s3r6anita@s3r6anita-Modern-14-B10MW:~/LoIP/labs/lab12/lab12/app\$". The command "rubocop controllers" has been executed. The output shows "Inspecting 3 files", followed by three green dots "...", and then "3 files inspected, no offenses detected". The prompt "s3r6anita@s3r6anita-Modern-14-B10MW:~/LoIP/labs/lab12/lab12/app\$" is shown again with a cursor.

```
s3r6anita@s3r6anita-Modern-14-B10MW:~/LoIP/labs/lab12/lab12/app$ rubocop controllers
Inspecting 3 files
...
3 files inspected, no offenses detected
s3r6anita@s3r6anita-Modern-14-B10MW:~/LoIP/labs/lab12/lab12/app$
```

Вывод: в результате выполнения лабораторной работы были получены практические навыки в создании веб-приложений, использующих аутентификацию, также были получены навыки написания интеграционных тестов приложений.