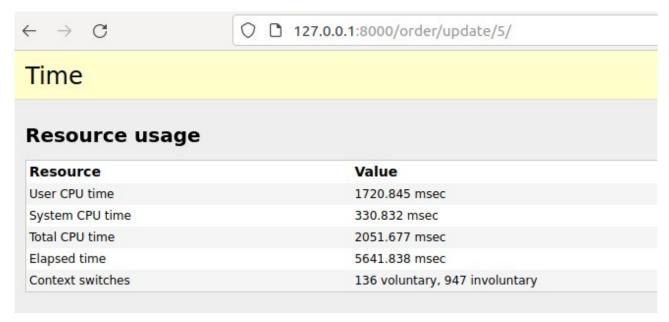
1. Установить приложение django-debug-toolbar. Оценить время загрузки страниц. Найти самые медленные контроллеры. Сделать скриншоты с учетом адресной строки браузера с замерами.

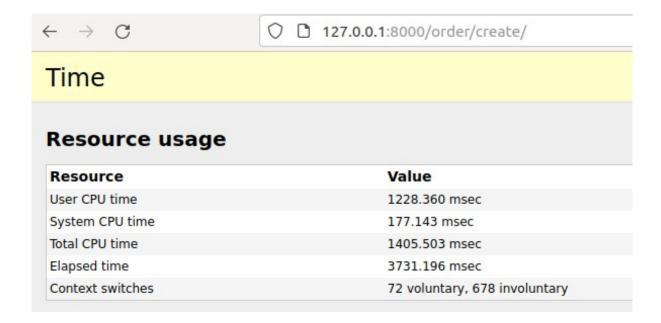
Приложение django-debug-toolbar установлено.

Время загрузки страниц

Адрес	Время, мс
http://127.0.0.1:8000/	416.543
http://127.0.0.1:8000/products/	199.462
http://127.0.0.1:8000/contact/	221.699
http://127.0.0.1:8000/auth/login/	54.335
http://127.0.0.1:8000/auth/edit/	221.590
http://127.0.0.1:8000/order/	342.162
http://127.0.0.1:8000/order/create/	1405.503
http://127.0.0.1:8000/order/read/5/	286.748
http://127.0.0.1:8000/order/update/5/	2051.677
http://127.0.0.1:8000/order/delete/5/	278.368
http://127.0.0.1:8000/basket/	492.999

Самое долгое время загрузки показали страницы создания и редактирования заказа — 1405.503 мс и 2051.677 мс соответственно





- 2. Установить утилиту siege и провести нагрузочное тестирование. Зафиксировать результаты в скриншотами, а так же выявить какие контроллеры работали с ошибками. На скриншотах зафиксировать:
  - 1. Адреса с которыми проводилась осада
  - 2. Результаты до оптимизации (в том числе с фиксацией ошибок перехода на недоступные адреса)
  - 3. Результат после оптимизации

Утилита siege установлена

Тестирование проведено до и после добавления LoginRequiredMixin в OrderList, @login\_required в authnapp/views.py.

Адреса с которыми проводилась осада:

```
http://194.67.121.135/
    http://194.67.121.135/contact/
    http://194.67.121.135/products/
    http://194.67.121.135/products/category/1/
    http://194.67.121.135/products/category/2/
    http://194.67.121.135/products/category/3/
    http://194.67.121.135/products/category/4/
    http://194.67.121.135/basket/
    http://194.67.121.135/auth/edit/
    http://194.67.121.135/auth/register/
11
    http://194.67.121.135/order/
    http://194.67.121.135/order/update/3/
12
    http://194.67.121.135/order/update/4/
13
    http://194.67.121.135/order/update/5/
14
```

Осада до добавления LoginRequiredMixin в OrderList, @login\_required в authnapp/views.py:

```
(venv) ermak@ermak-VirtualBox:~/Paбочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Pa6очий стол/djangoBasics/geekshop/tmp/test_urls.txt" -dl -rl5 -cl
** SIEGE 4.0.4
** Preparing 1 concurrent users for battle.
The server is now under siege...
Transactions: 106 hits
Availablity: 98.15 %
Elapsed time: 34.67 secs
Data transferred: 4.33 MB
Response time: 0.26 secs
Transaction rate: 3.06 trans/sec
Transaction rate: 3.06 trans/sec
Transaction rate: 0.28 MB/sec
Concurrency: 0.80
Successful transactions: 103
Failed transactions: 103
Failed transactions: 2
Longest transaction: 0.65
Shortest transaction: 0.11

(venv) ermak@ermak-VirtualBox:~/Pa6очий стол/djangoBasics/geekshop$■
```

Осада после добавления LoginRequiredMixin в OrderList, @login\_required в authnapp/views.py:

```
(venv) ermak@ermak-VirtualBox:-/Рабочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Рабочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -d1 -r15 -c1
** SIEGE 4.0.4
** Preparing 1 concurrent users for battle.
The server is now under siege...
Transactions:

118 hits
Availability:
100.00 %
Elapsed time:
97.44 secs
Data transferred:
98.75 secs
Transaction rate:
98.77 secs
Transaction rate:
98.78 secs
Transaction rate:
98.78 secs
Transaction rate:
98.78 secs
Transaction rate:
98.78 secs
Transaction rate:
98.84 secs
Successful transactions:
98.84 secs
Longest transactions:
98.85 secs
Shortest transaction:
99.86 shortest transaction:
99.87 secs
Shortest transaction:
99.88 secs
Shortest transaction:
90.98 secs
Shortest transaction:
90.11 (venv) ermak@ermak-VirtualBox:~/Pa6oчий стол/djangoBasics/geekshop$ ■
```

## 3. Нагрузочное тестирование

Тестирование до оптимизации select\_related():

```
(venv) ermak@ermak-VirtualBox:~/Pa6oчий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Pa6oчий стол/djangoBasics/geekshop/tmp/test_urls.txt" -dl -rl -c50
** SIEGE 4.0.4
** Preparing 50 concurrent users for battle.
The server is now under siege...
Transactions: 700 hits
Availability: 100.00 %
Elapsed time: 34.47 secs
Data transferred: 23.69 MB
Response time: 2.28 secs
Transaction rate: 20.31 trans/sec
Throughput: 0.69 MB/sec
Concurrency: 46.30
Successful transactions: 700
Failed transactions: 700
Longest transaction: 0
Longest transaction: 0.11

(venv) ermak@ermak-VirtualBox:~/Pa6oчий стол/djangoBasics/geekshop$ [
```

```
(venv) ermak@ermak-VirtualBox:~/Paбочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Paбочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -dl -rl -cl50
** SIEGE 4.0.4

** Preparing 150 concurrent users for battle.
The server is now under siege...
Transactions: 1260 hits
Availability: 95.45 %
Elapsed time: 91.49 secs
Data transferred: 42.66 MB
Response time: 9.34 secs
Transaction rate: 13.77 trans/sec
Throughput: 0.47 MB/sec
Concurrency: 128.64
Successful transactions: 1290
Failed transactions: 60.20
Shortest transaction: 60.20
Shortest transaction: 0.11

(venv) ermak@ermak-VirtualBox:~/Paбочий стол/djangoBasics/geekshop$■
```

```
(venv) ermak@ermak-VirtualBox:~/Pa6oчий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Pa6oчий стол/djangoBasics/geekshop/tmp/test_urls.txt" -dl -rl -c250
** SIEGE 4.0.4

** Preparing 250 concurrent users for battle.
The server is now under siege...
Transactions: 0 hits
Availability: 0.00 %
Elapsed time: 0.00 %
Elapsed time: 120.93 secs
Data transferred: 0.04 MB
Response time: 0.00 secs
Transaction rate: 0.00 trans/sec
Throughput: 0.00 MB/sec
Concurrency: 154.95
Successful transactions: 120
Failed transactions: 120
Failed transaction: 0.60.88
Shortest transaction: 1.75

(venv) ermak@ermak-VirtualBox:~/Pa6oчий стол/djangoBasics/geekshop$
```

## Тестирование после оптимизации select\_related():

```
(venv) ermak@ermak-VirtualBox:-/Pa6oчий cтon/djangoBasics/geekshop$ siege -f "/home/ermak/Pa6oчий cтon/djangoBasics/geekshop/tmp/test_urls.txt" -dl -rl -c50
** SIEGE 4.0.4
** Preparing 50 concurrent users for battle.
The server is now under siege...
Transactions: 700 hits
Availability: 100.00 %
Elapsed time: 34.92 secs
Data transferred: 23.69 MB
Response time: 2.29 secs
Transaction rate: 20.05 trans/sec
Throughput: 0.68 MB/sec
Concurrency: 45.97
Successful transactions: 700
Failed transactions: 0
Longest transaction: 27.14
Shortest transaction: 0.11
```

```
(venv) ermak@ermak-VirtualBox:~/Pa6oчий cron/djangoBasics/geekshop$ siege -f "/home/ermak/Pa6oчий cron/djangoBasics/geekshop/tmp/test_urls.txt" -dl -rl -cl50
** SIEGE 4.0.4
** Preparing 150 concurrent users for battle.
The server is now under siege...
Transactions: 1386 hits
Availability: 96.45 %
Elapsed time: 87.87 secs
Data transferred: 46.92 MB
Response time: 8.29 secs
Transaction rate: 15.77 trans/sec
Throughput: 0.53 MB/sec
Concurrency: 130.71
Successful transactions: 1410
Failed transactions: 51
Longest transaction: 60.39
Shortest transaction: 0.11

(venv) ermak@ermak-VirtualBox:~/Pa6oчий стол/djangoBasics/geekshop$

■ Concurrency Concurre
```

```
(venv) ermak@ermak-VirtualBox:-/Рабочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Рабочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -dl -rl -c250
** SIEGE 4.0.4
** Preparing 250 concurrent users for battle.
The server is now under siege...
Fransactions:
0 hits
4 hits
4 hits
4 hits
4 hits
5 hits
6 hits
6 hits
7 hits
7 hits
8 hits
8
```

4. Визуализировать структуру моделей при помощи django\_extensions

