

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

← → ↻ 127.0.0.1:8000/order/update/5/	
Time	
Resource usage	
Resource	Value
User CPU time	1720.845 msec
System CPU time	330.832 msec
Total CPU time	2051.677 msec
Elapsed time	5641.838 msec
Context switches	136 voluntary, 947 involuntary

Time	
Resource usage	
Resource	Value
User CPU time	1228.360 msec
System CPU time	177.143 msec
Total CPU time	1405.503 msec
Elapsed time	3731.196 msec
Context switches	72 voluntary, 678 involuntary

2. Установить утилиту `siege` и провести нагрузочное тестирование.

Зафиксировать результаты в скриншотах, 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:

```

1  http://194.67.121.135/
2  http://194.67.121.135/contact/
3  http://194.67.121.135/products/
4  http://194.67.121.135/products/category/1/
5  http://194.67.121.135/products/category/2/
6  http://194.67.121.135/products/category/3/
7  http://194.67.121.135/products/category/4/
8  http://194.67.121.135/basket/
9  http://194.67.121.135/auth/edit/
10 http://194.67.121.135/auth/register/
11 http://194.67.121.135/order/
12 http://194.67.121.135/order/update/3/
13 http://194.67.121.135/order/update/4/
14 http://194.67.121.135/order/update/5/

```

Осада до 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:      106 hits
Availability:      98.15 %
Elapsed time:      34.67 secs
Data transferred:  4.33 MB
Response time:     0.26 secs
Transaction rate:  3.06 trans/sec
Throughput:        0.12 MB/sec
Concurrency:       0.80
Successful transactions: 103
Failed transactions: 2
Longest transaction: 0.65
Shortest transaction: 0.11
(venv) ermak@ermak-VirtualBox:~/Рабочий 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:      37.44 secs
Data transferred:  4.88 MB
Response time:     0.27 secs
Transaction rate:  3.15 trans/sec
Throughput:        0.13 MB/sec
Concurrency:       0.84
Successful transactions: 115
Failed transactions: 0
Longest transaction: 0.98
Shortest transaction: 0.11
(venv) ermak@ermak-VirtualBox:~/Рабочий стол/djangoBasics/geekshop$
```

3. Нагрузочное тестирование

Тестирование до оптимизации select_related():

```
(venv) ermak@ermak-VirtualBox:~/Рабочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Рабочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -d1 -r1 -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: 0
Longest transaction: 26.77
Shortest transaction: 0.11
(venv) ermak@ermak-VirtualBox:~/Рабочий стол/djangoBasics/geekshop$
```

```
(venv) ermak@ermak-VirtualBox:~/Рабочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Рабочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -d1 -r1 -c150
** 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
Longest transaction: 60.20
Shortest transaction: 0.11
(venv) ermak@ermak-VirtualBox:~/Рабочий стол/djangoBasics/geekshop$
```

```
(venv) ermak@ermak-VirtualBox:~/Рабочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Рабочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -d1 -r1 -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:      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: 250
Longest transaction: 60.88
Shortest transaction: 1.75

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

Тестирование после оптимизации select_related():

```
(venv) ermak@ermak-VirtualBox:~/Рабочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Рабочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -d1 -r1 -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:~/Рабочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Рабочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -d1 -r1 -c150
** 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:~/Рабочий стол/djangoBasics/geekshop$
```

```
(venv) ermak@ermak-VirtualBox:~/Рабочий стол/djangoBasics/geekshop$ siege -f "/home/ermak/Рабочий стол/djangoBasics/geekshop/tmp/test_urls.txt" -d1 -r1 -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:      121.35 secs
Data transferred:  0.04 MB
Response time:     0.00 secs
Transaction rate:  0.00 trans/sec
Throughput:        0.00 MB/sec
Concurrency:       155.15
Successful transactions: 123
Failed transactions: 250
Longest transaction: 60.21
Shortest transaction: 2.20

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

4. Визуализировать структуру моделей при помощи django_extensions

