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Факультет «Информатика и системы управления»
Кафедра ИУ5 «Системы обработки информации и управления»

Курс «Разработка интернет приложений»

Отчет по лабораторной работе №6
«Разработка REST API с использованием Django REST Framework.»

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Описание задания:

С использованием Django REST Framework разработайте REST API для одной модели (одной таблицы базы данных).

Создание сериализатора для модели ProgLanguage:

```
from rest_framework import serializers
from .models import ProgLanguage

class LangSerializer(serializers.ModelSerializer):
    class Meta:
        model = ProgLanguage
        fields = ['id_language', 'language_name', 'descript',
'creation_year']
```

Создание view:

```
class LangViewSet(viewsets.ModelViewSet):
    queryset = ProgLanguage.objects.all()
    serializer_class = LangSerializer
```

Добавление созданного view url's приложения:

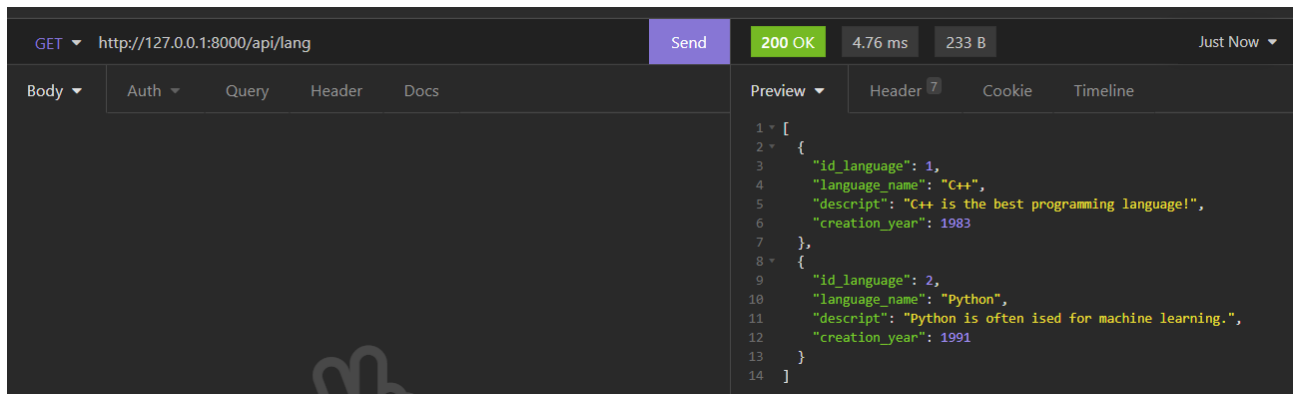
```
from django.urls import path, include
from . import views
from rest_framework import routers

router = routers.DefaultRouter()
router.register(r'lang', views.LangViewSet)

urlpatterns = [
    path('', views.index),
    path('api/', include(router.urls)),
    path('<str:model_name>/', views.list, name='list')
]
```

Проверка работы API:

Запрос GET для получения всех элементов:



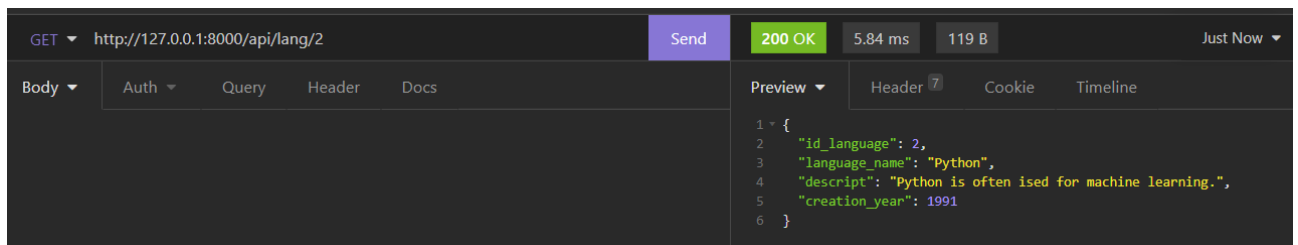
GET http://127.0.0.1:8000/api/lang Send 200 OK 4.76 ms 233 B Just Now

Body Auth Query Header Docs

Preview Header 7 Cookie Timeline

```
1 [
2   {
3     "id_language": 1,
4     "language_name": "C++",
5     "descript": "C++ is the best programming language!",
6     "creation_year": 1983
7   },
8   {
9     "id_language": 2,
10    "language_name": "Python",
11    "descript": "Python is often used for machine learning.",
12    "creation_year": 1991
13  }
14 ]
```

Запрос GET для получения 1 элемента:



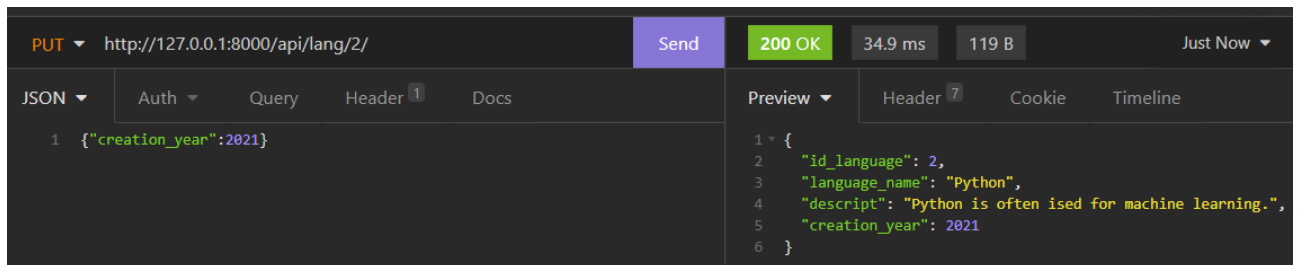
GET http://127.0.0.1:8000/api/lang/2 Send 200 OK 5.84 ms 119 B Just Now

Body Auth Query Header Docs

Preview Header 7 Cookie Timeline

```
1 {
2   "id_language": 2,
3   "language_name": "Python",
4   "descript": "Python is often used for machine learning.",
5   "creation_year": 1991
6 }
```

Запрос PUT для изменения элемента:



PUT http://127.0.0.1:8000/api/lang/2/ Send 200 OK 34.9 ms 119 B Just Now

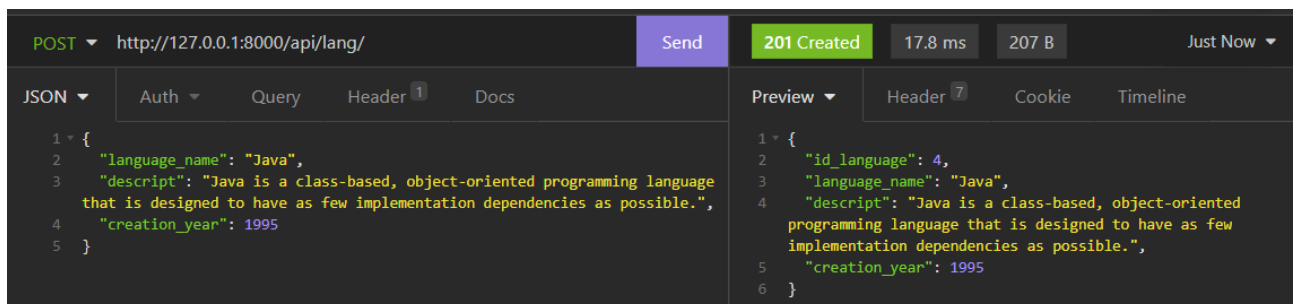
JSON Auth Query Header 1 Docs

```
1 {"creation_year": 2021}
```

Preview Header 7 Cookie Timeline

```
1 {
2   "id_language": 2,
3   "language_name": "Python",
4   "descript": "Python is often used for machine learning.",
5   "creation_year": 2021
6 }
```

Запрос POST добавления нового элемента:



POST http://127.0.0.1:8000/api/lang/ Send 201 Created 17.8 ms 207 B Just Now

JSON Auth Query Header 1 Docs

```
1 {
2   "language_name": "Java",
3   "descript": "Java is a class-based, object-oriented programming language
4   that is designed to have as few implementation dependencies as possible.",
5   "creation_year": 1995
6 }
```

Preview Header 7 Cookie Timeline

```
1 {
2   "id_language": 4,
3   "language_name": "Java",
4   "descript": "Java is a class-based, object-oriented
5   programming language that is designed to have as few
6   implementation dependencies as possible.",
7   "creation_year": 1995
8 }
```

Запрос DELETE для удаления элемента:

The screenshot shows a REST client interface. The top bar displays the method **DELETE**, the URL `http://127.0.0.1:8000/api/lang/4/`, a **Send** button, and the response status **204 No Content** in green. To the right, it shows the response time **5.37 ms** and the response size **0 B**. Below the top bar, there are tabs for **JSON**, **Auth**, **Query**, **Header** (with a count of 1), and **Docs**. The **JSON** tab is active, showing a list with one item labeled **1**. On the right side, there are tabs for **Preview**, **Header** (with a count of 6), **Cookie**, and **Timeline**. The **Preview** tab is active, displaying the text **No body returned for response**.

Запрос GET для получения всех элементов:

The screenshot shows a REST client interface. The top bar displays the method **GET**, the URL `http://127.0.0.1:8000/api/lang`, a **Send** button, and the response status **200 OK** in green. To the right, it shows the response time **4.26 ms** and the response size **233 B**. Below the top bar, there are tabs for **JSON**, **Auth**, **Query**, **Header** (with a count of 1), and **Docs**. The **JSON** tab is active, showing a list with one item labeled **1**. On the right side, there are tabs for **Preview**, **Header** (with a count of 7), **Cookie**, and **Timeline**. The **Preview** tab is active, displaying a JSON array of two objects. The JSON is formatted with line numbers 1 through 14 on the left margin.

```
1 [
2   {
3     "id_language": 1,
4     "language_name": "C++",
5     "descript": "C++ is the best programming language!",
6     "creation_year": 1983
7   },
8   {
9     "id_language": 2,
10    "language_name": "Python",
11    "descript": "Python is often ised for machine
learning.",
12    "creation_year": 2021
13  }
14 ]
```