```
(venv) D:\django\uvic>pip install djangorestframework
WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
Collecting djangorestframework
Downloading djangorestframework-3.14.0-py3-none-any.whl (1.1 MB)
Requirement already satisfied: django>=3.0 in d:\django\uvic\venv\lib\site-packages (from djangorestframework) (4.1.5)
Requirement already satisfied: pytz in d:\django\uvic\venv\lib\site-packages (from djangorestframework) (2022.6)
Requirement already satisfied: asgiref<4,>=3.5.2 in d:\django\uvic\venv\lib\site-packages (from django>=3.0->djangorestframework) (3.6.0)
Requirement already satisfied: sqlparse>=0.2.2 in d:\django\uvic\venv\lib\site-packages (from django>=3.0->djangorestframework) (0.4.3)
Requirement already satisfied: tzdata in d:\django\uvic\venv\lib\site-packages (from django>=3.0->djangorestframework) (2022.7)
Requirement already satisfied: backports.zoneinfo in d:\django\uvic\venv\lib\site-packages (from django>=3.0->djangorestframework) (0.2.1)
WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
Installing collected packages: djangorestframework
WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
Successfully installed djangorestframework-3.14.0
WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
    (venv) D:\django\uvic>pip install pygments
    WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
    WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
    Collecting pygments
      Downloading Pygments-2.14.0-py3-none-any.whl (1.1 MB)
                                ----- 1.1/1.1 MB 925.7 kB/s eta 0:00:00
    WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
    Installing collected packages: pygments
    WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
    Successfully installed pygments-2.14.0
    WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
    WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
    WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)
    (venv) D:\django\uvic>cd kurs/lab_25
    (venv) D:\django\uvic\kurs\lab_25>django-admin startproject tutorial
    (venv) D:\django\uvic\kurs\lab_25>cd tutorial
    (venv) D:\django\uvic\kurs\lab_25\tutorial>python manage.py startapp snippets
    (venv) D:\django\uvic\kurs\lab_25\tutorial>python manage.py makemigrations snippets
    Migrations for 'snippets':
      snippets\migrations\0001_initial.py
         - Create model Snippet
    (venv) D:\django\uvic\kurs\lab_25\tutorial>python manage.py migrate snippets
    Operations to perform:
      Apply all migrations: snippets
    Running migrations:
      Applying snippets.0001_initial... OK
```

```
(venv) D:\django\uvic\kurs\lab_25\tutorial>python manage.py shell
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
(InteractiveConsole)
>>> from snippets.serializers import SnippetSerializer
>>> from rest_framework.parsers import JSONParser
>>> snippet = Snippet(code='foo = "bar"\n')
>>> snippet = Snippet(code='print("hello, world")\n')
>>> serializer = SnippetSerializer(snippet)
{'id': 2, 'title': '', 'code': 'print("hello, world")\n', 'linenos': False, 'language': 'python', 'style': 'friendly'}
>>> content = JSONRenderer().render(serializer.data)
b'{"id":2,"title":"","code":"print(\\"hello, world\\")\\n","linenos":false,"language":"python","style":"friendly"}'
>>> import io
>>> serializer = SnippetSerializer(data=data)
OrderedDict([('title', ''), ('code', 'print("hello, world")'), ('linenos', False), ('language', 'python'), ('style', 'friendly')])
>>> serializer.save()
```

```
>>> serializer = SnippetSerializer(Snippet.objects.all(), many=True)
>>> serializer.data
[OrderedDict([('id', 1), ('title', ''), ('code', 'foo = "bar"\n'), ('linenos', False), ('language', 'python'), ('style', 'friendly')]), OrderedDict([('id', 2), ('title', ''), ('code', 'print("hello, world")\n'), (
'linenos', False), ('language', 'python'), ('style', 'friendly')]), OrderedDict([('id', 3), ('title', ''), ('code', 'print("hello, world")'), ('linenos', False), ('language', 'python'), ('style', 'friendly')]]
>>>
```

```
(venv) D:\django\uvic\kurs\lab_25\tutorial>python manage.py shell
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
(InteractiveConsole)
>>> from snippets.serializers import SnippetSerializer
>>> serializer = SnippetSerializer()
>>> print(repr(serializer))
SnippetSerializer():
    id = IntegerField(label='ID', read_only=True)
   title = CharField(allow_blank=True, max_length=100, required=False)
   code = CharField(style={'base_template': 'textarea.html'})
   linenos = BooleanField(required=False)
    language = ChoiceField(choices=[('abap', 'ABAP'), ('abnf', 'ABNF'), ('actionscript', 'Actio
('alloy', 'Alloy'), ('ambienttalk', 'AmbientTalk'), ('amdgpu', 'AMDGPU'), ('ampl', 'Ampl'), ('a
), ('antlr-cpp', 'ANTLR With CPP Target'), ('antlr-csharp', 'ANTLR With C# Target'), ('antlr-
t'), ('antlr-python', 'ANTLR With Python Target'), ('antlr-ruby', 'ANTLR With Ruby Target'), (
, ('arturo', 'Arturo'), ('asc', 'ASCII armored'), ('aspectj', 'AspectJ'), ('aspx-cs', 'aspx-cs'
'AutoIt'), ('awk', 'Awk'), ('bare', 'BARE'), ('basemake', 'Base Makefile'), ('bash', 'Bash'),
unge'), ('berry', 'Berry'), ('bibtex', 'BibTeX'), ('blitzbasic', 'BlitzBasic'), ('blitzmax', '
```

```
(venv) D:\django\uvic\kurs\lab_25\tutorial>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.

January 12, 2023 - 14:17:28

Django version 4.1.5, using settings 'tutorial.settings'

Starting development server at <a href="http://127.0.0.1:8000/">http://127.0.0.1:8000/</a>

Quit the server with CTRL-BREAK.
```

```
(venv) D:\django\uvic\kurs\lab_25\tutorial>python manage.py migrate
 Apply all migrations: admin, auth, contenttypes, sessions, snippets
Running migrations:
 Applying contenttypes.0001_initial... OK
 Applying auth.0001_initial... OK
 Applying admin.0001_initial... OK
 Applying admin.0002_logentry_remove_auto_add... OK
 Applying admin.0003_logentry_add_action_flag_choices... OK
 Applying contenttypes.0002_remove_content_type_name... OK
 Applying auth.0002_alter_permission_name_max_length... OK
 Applying auth.0003_alter_user_email_max_length... OK
 Applying auth.0004_alter_user_username_opts... OK
 Applying auth.0005_alter_user_last_login_null... OK
 Applying auth.0006 require contenttypes 0002... OK
 Applying auth.0007 alter validators add error messages... OK
 Applying auth.0008_alter_user_username_max_length... OK
 Applying auth.0009_alter_user_last_name_max_length... OK
 Applying auth.0010_alter_group_name_max_length... OK
 Applying auth.0011_update_proxy_permissions... OK
 Applying auth.0012_alter_user_first_name_max_length... OK
 Applying sessions.0001_initial... OK
```

```
(venv) D:\django\uvic\kurs\lab_25\tutorial>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
January 12, 2023 - 14:17:57
Django version 4.1.5, using settings 'tutorial.settings'
Starting development server at <a href="http://127.0.0.1:8000/">http://127.0.0.1:8000/</a>
Quit the server with CTRL-BREAK.
Not Found: /
[12/Jan/2023 14:17:59] "GET / HTTP/1.1" 404 2388
Not Found: /favicon.ico
[12/Jan/2023 14:17:59] "GET /favicon.ico HTTP/1.1" 404 2439
[12/Jan/2023 14:18:10] "GET /snippets/ HTTP/1.1" 200 354
```

```
Requirement already satisfied: typing-extensions<5.0,>=4.0.0 in d:\django\uvic\venv\lib\site-packages (from rich>=9.10.0->httpie) (4.4.0)

WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)

Installing collected packages: commonmark, rich, PySocks, defusedwnl, requests-toolbelt, httpie

WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)

Successfully installed PySocks-1.7.1 commonmark-0.9.1 defusedwml-0.7.1 httpie-3.2.1 requests-toolbelt-0.10.1 rich-13.0.1

WARNING: Ignoring invalid distribution -ip (d:\django\uvic\venv\lib\site-packages)

WaRNING:
```