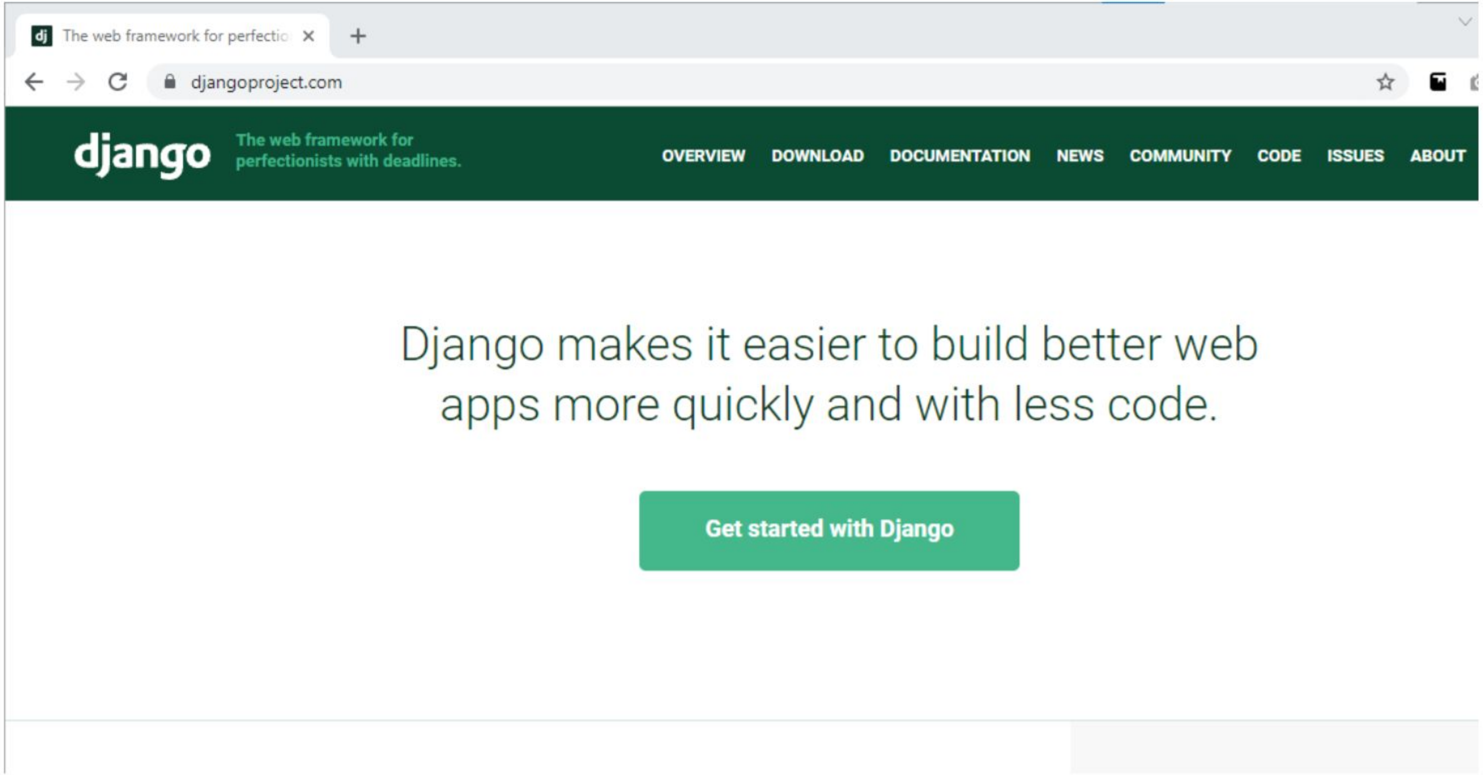
Get to Know Django Better

Django - Python web framework


The web framework for perfectio
djangoproject.com
django
The web framework for perfectionists with deadlines.
OVERVIEW
DOWNLOAD
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NEWS
COMMUNITY
CODE
ISSUES
ABOUT

Django makes it easier to build better web apps more quickly and with less code.

Django features

Data-driven via connection with database

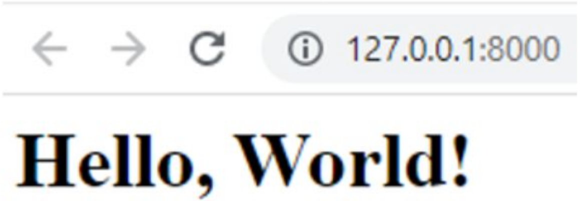
Built-in Object-Relational Mapper (ORM)

Built-in administration portal

Built-in development environment

django-admin startproject

Docker exercises used provided, pre-generated Django project



127.0.0.1:8000

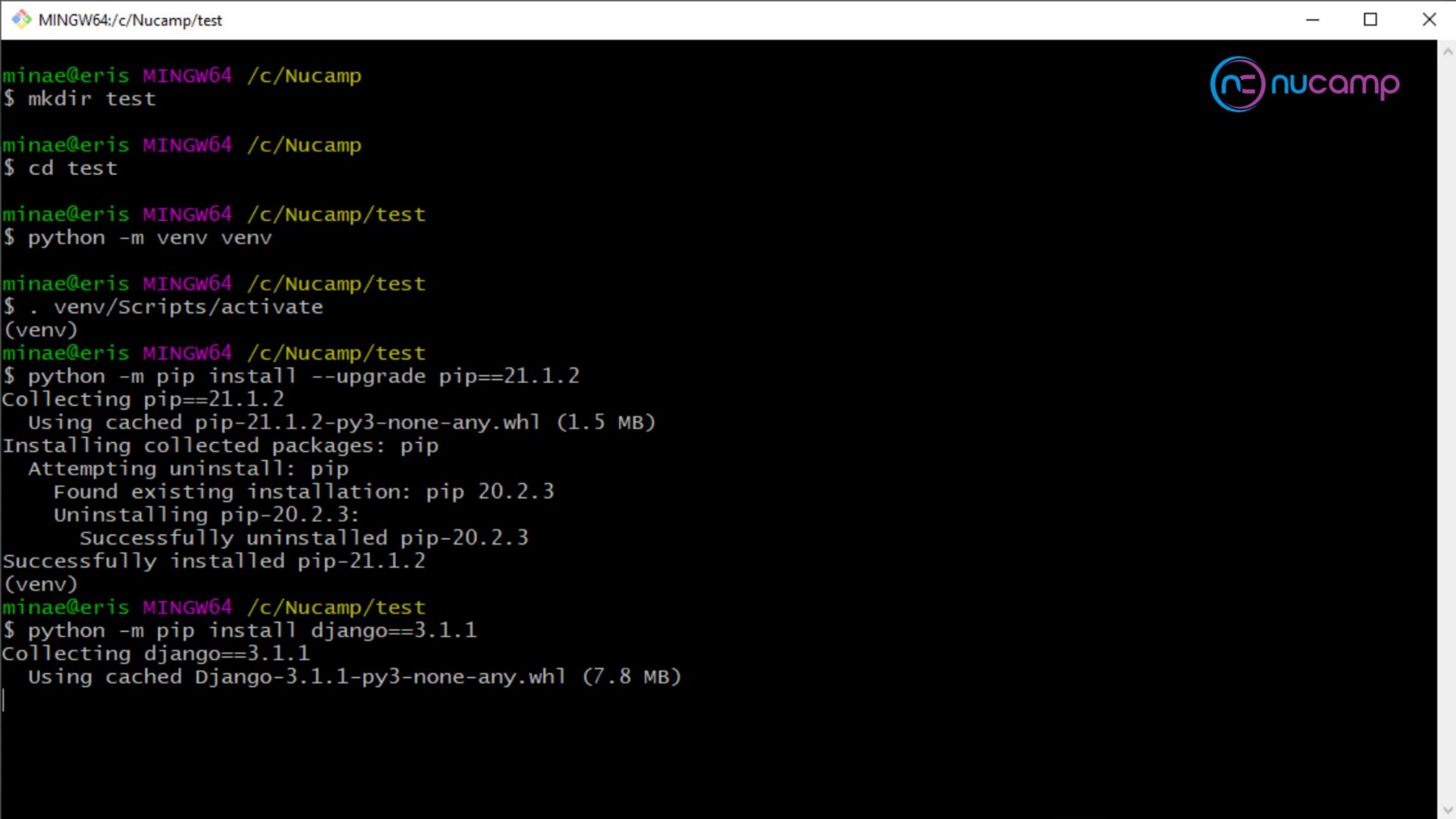
Hello, World!

Workshop: You will generate the Django project yourself

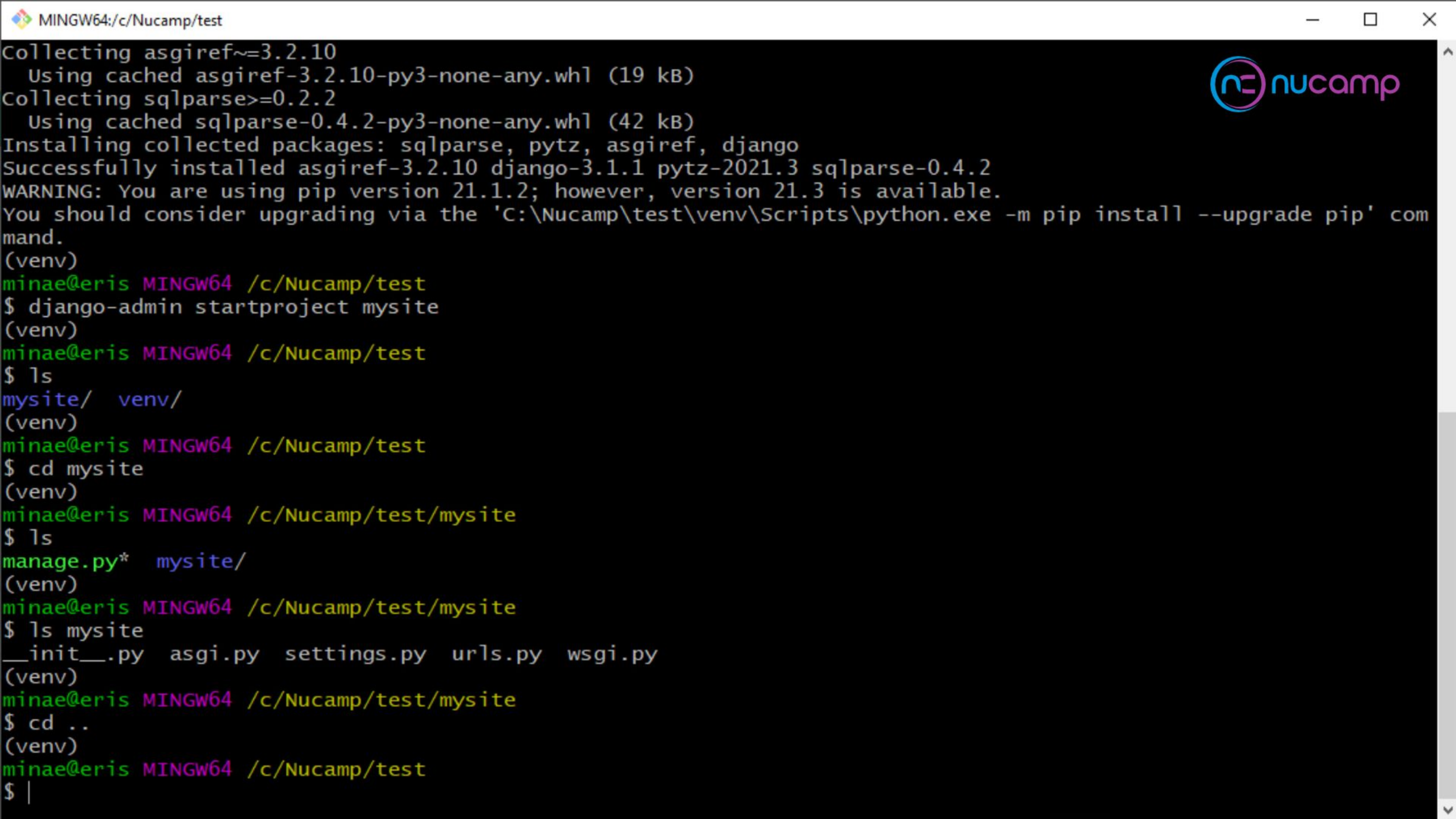
Use **django-admin** CLI tool to scaffold out starter files

Syntax:

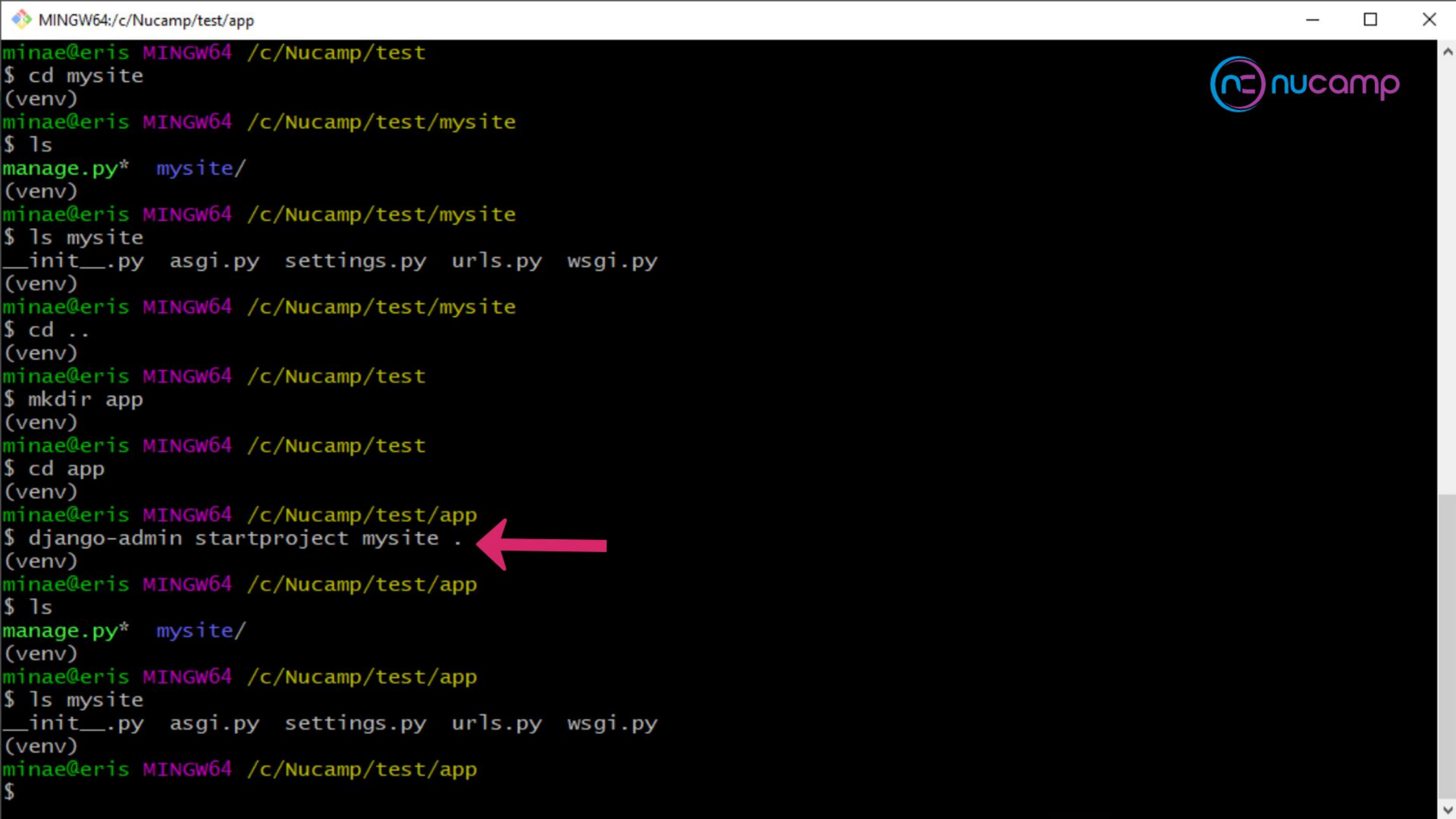
django-admin startproject *mysite* (starts new project folder named mysite)
django-admin startproject *mysite* . (uses current folder as project folder)



```
minae@eris MINGW64 /c/Nucamp
$ mkdir test

minae@eris MINGW64 /c/Nucamp
$ cd test

minae@eris MINGW64 /c/Nucamp/test
$ python -m venv venv

minae@eris MINGW64 /c/Nucamp/test
$ . venv/Scripts/activate
(venv)
minae@eris MINGW64 /c/Nucamp/test
$ python -m pip install --upgrade pip==21.1.2
Collecting pip==21.1.2
  Using cached pip-21.1.2-py3-none-any.whl (1.5 MB)
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 20.2.3
    Uninstalling pip-20.2.3:
      Successfully uninstalled pip-20.2.3
Successfully installed pip-21.1.2
(venv)
minae@eris MINGW64 /c/Nucamp/test
$ python -m pip install django==3.1.1
Collecting django==3.1.1
  Using cached Django-3.1.1-py3-none-any.whl (7.8 MB)
```



```
Collecting asgiref~=3.2.10
  Using cached asgiref-3.2.10-py3-none-any.whl (19 kB)
Collecting sqlparse>=0.2.2
  Using cached sqlparse-0.4.2-py3-none-any.whl (42 kB)
Installing collected packages: sqlparse, pytz, asgiref, django
Successfully installed asgiref-3.2.10 django-3.1.1 pytz-2021.3 sqlparse-0.4.2
WARNING: You are using pip version 21.1.2; however, version 21.3 is available.
You should consider upgrading via the 'C:\Nucamp\test\venv\Scripts\python.exe -m pip install --upgrade pip' com
mand.
(venv)
minae@eris MINGW64 /c/Nucamp/test
$ django-admin startproject mysite
(venv)
minae@eris MINGW64 /c/Nucamp/test
$ ls
mysite/  venv/
(venv)
minae@eris MINGW64 /c/Nucamp/test
$ cd mysite
(venv)
minae@eris MINGW64 /c/Nucamp/test/mysite
$ ls
manage.py*  mysite/
(venv)
minae@eris MINGW64 /c/Nucamp/test/mysite
$ ls mysite
__init__.py  asgi.py  settings.py  urls.py  wsgi.py
(venv)
minae@eris MINGW64 /c/Nucamp/test/mysite
$ cd ..
(venv)
minae@eris MINGW64 /c/Nucamp/test
$ |
```



MINGW64:/c/Nucamp/test/app

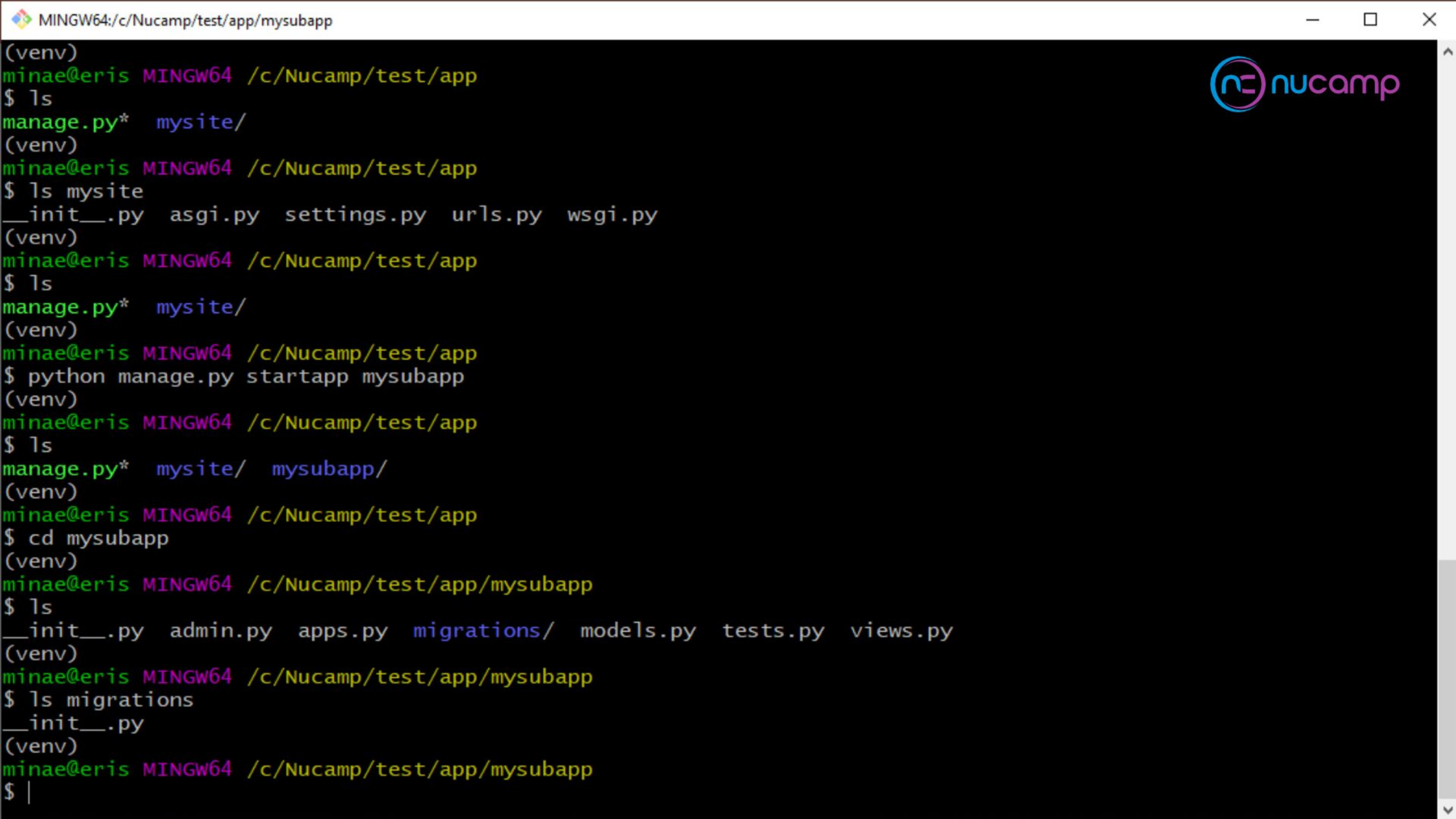
```
minae@eris MINGW64 /c/Nucamp/test
$ cd mysite
(venv)
minae@eris MINGW64 /c/Nucamp/test/mysite
$ ls
manage.py*  mysite/
(venv)
minae@eris MINGW64 /c/Nucamp/test/mysite
$ ls mysite
__init__.py  asgi.py  settings.py  urls.py  wsgi.py
(venv)
minae@eris MINGW64 /c/Nucamp/test/mysite
$ cd ..
(venv)
minae@eris MINGW64 /c/Nucamp/test
$ mkdir app
(venv)
minae@eris MINGW64 /c/Nucamp/test
$ cd app
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ django-admin startproject mysite .
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ ls
manage.py*  mysite/
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ ls mysite
__init__.py  asgi.py  settings.py  urls.py  wsgi.py
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$
```

Add sub-apps

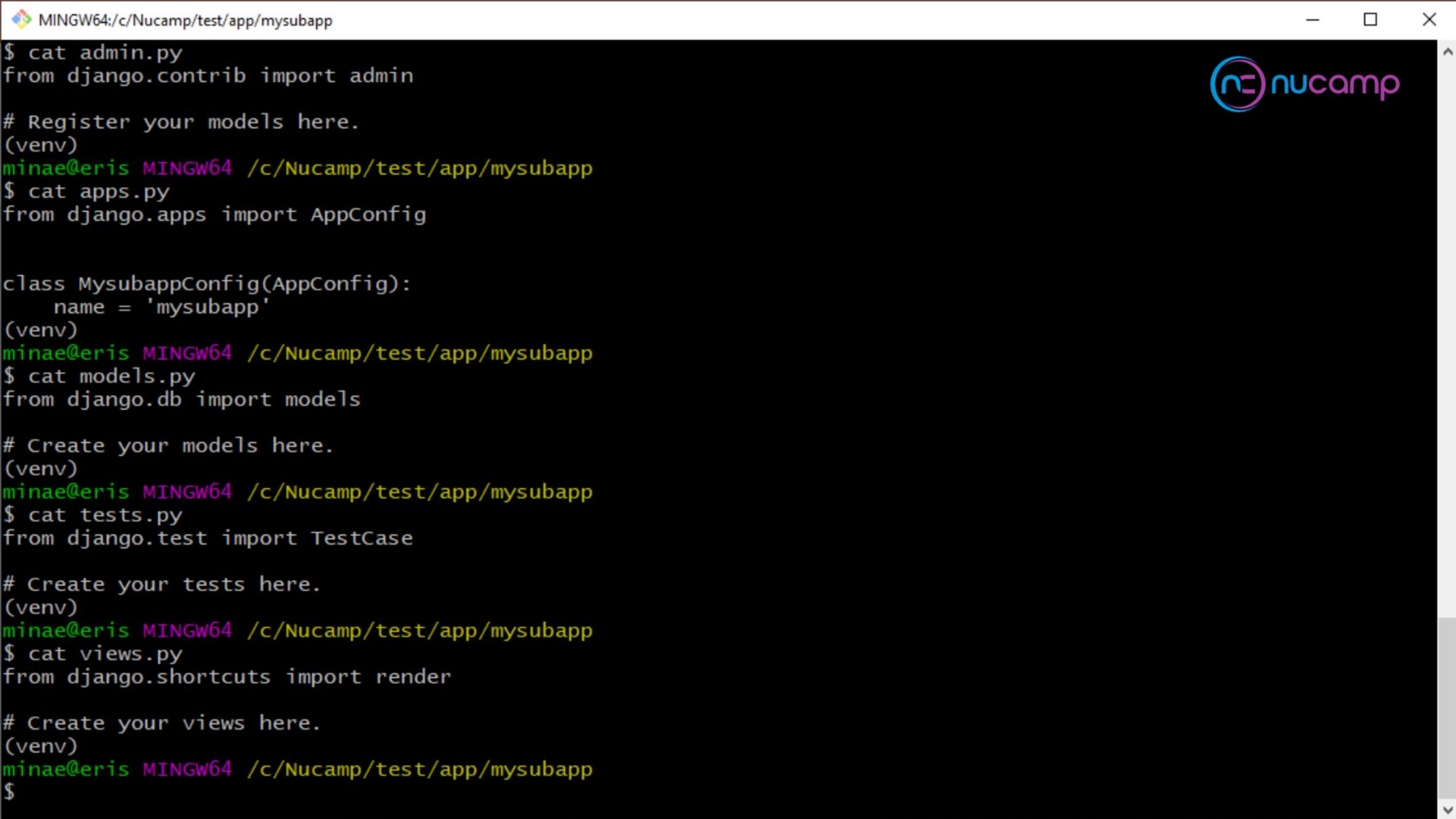
From project root folder (same location as manage.py), use:
python manage.py startapp *mysubapp*

New ***mysubapp*** folder will be created inside project root folder
Starter files will be generated inside it

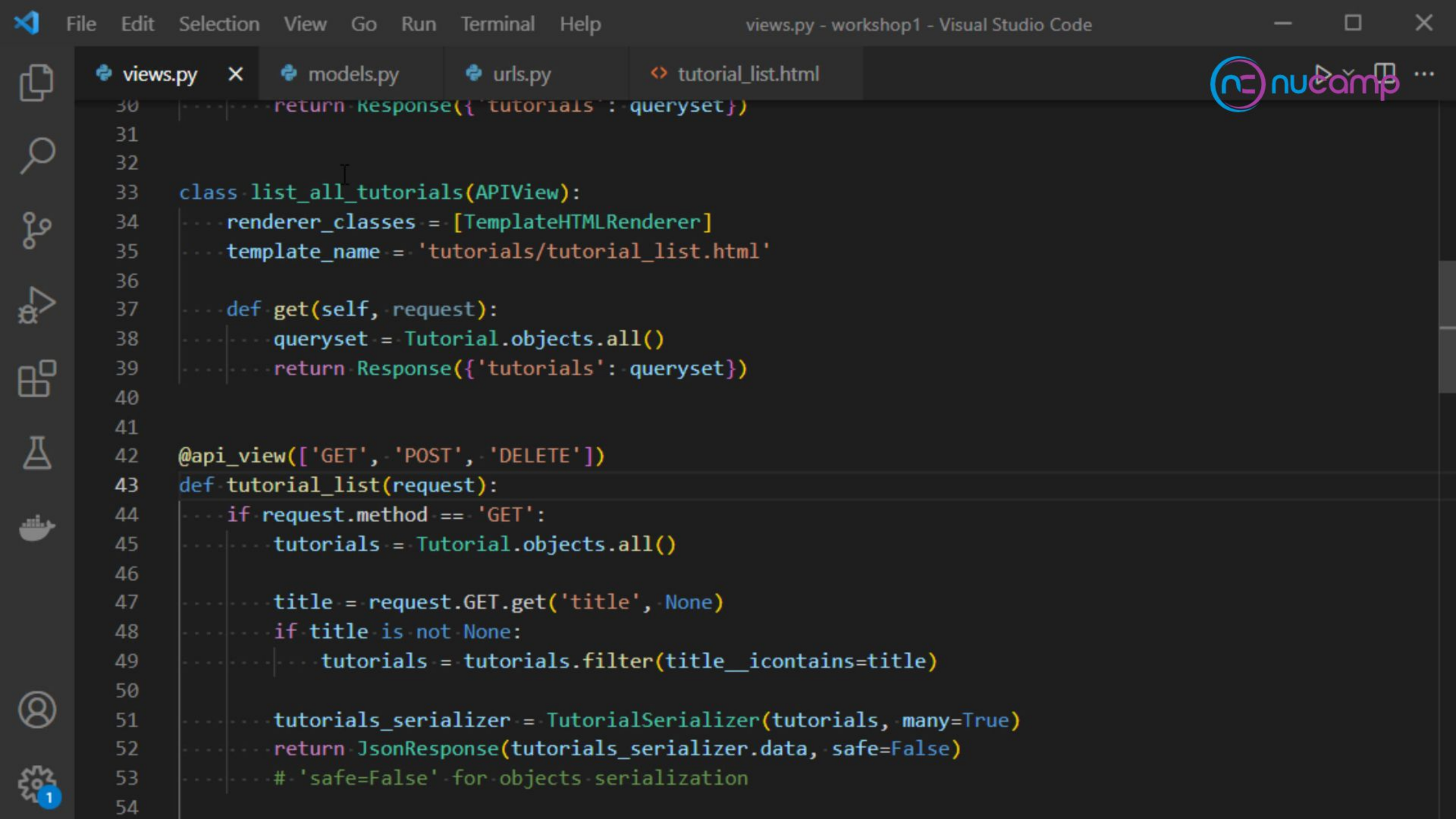
Must add sub-app to main app's **settings.py INSTALLED_APPS** list



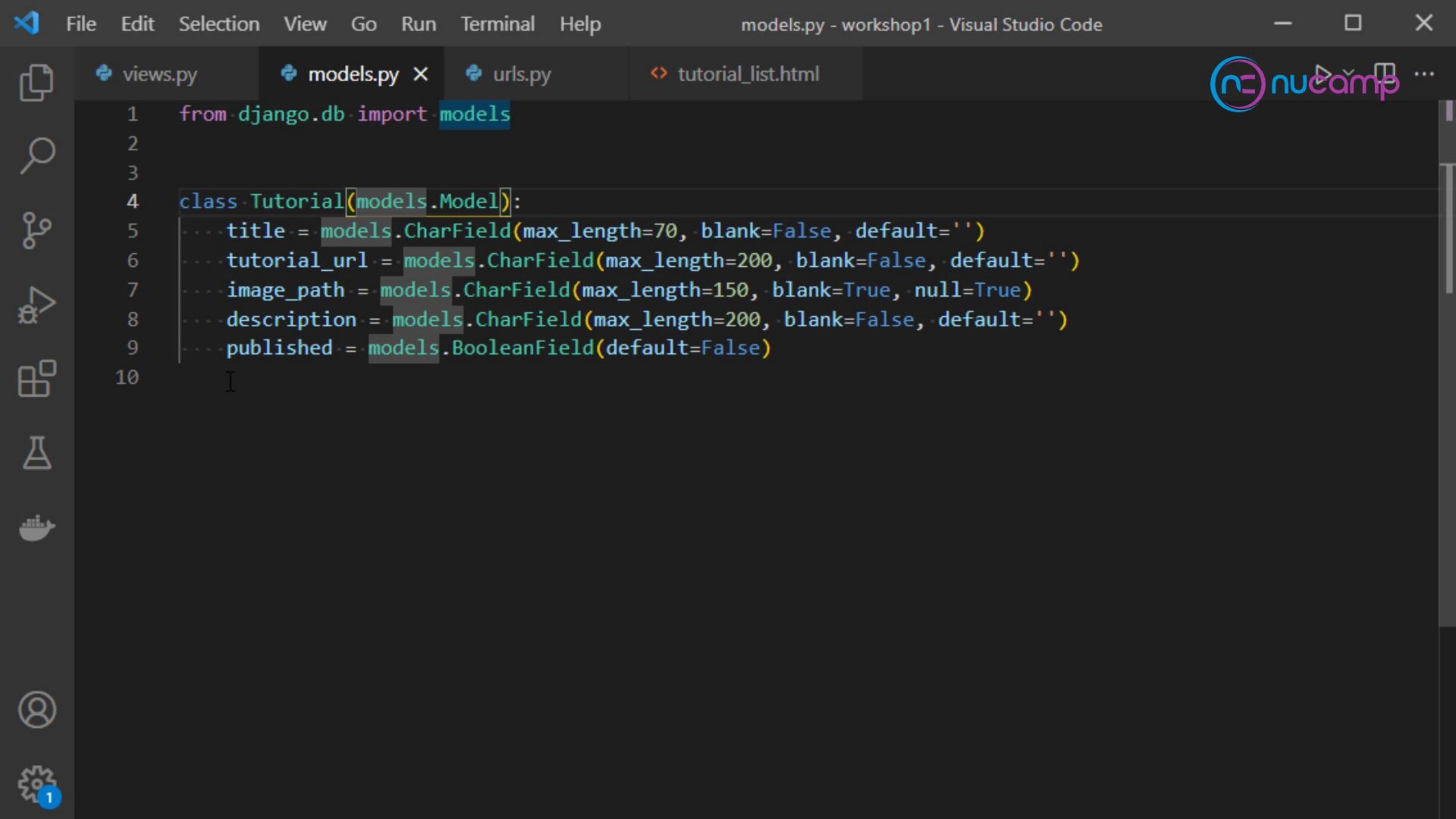
```
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ ls
manage.py*  mysite/
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ ls mysite
__init__.py  asgi.py  settings.py  urls.py  wsgi.py
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ ls
manage.py*  mysite/
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ python manage.py startapp mysubapp
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ ls
manage.py*  mysite/  mysubapp/
(venv)
minae@eris MINGW64 /c/Nucamp/test/app
$ cd mysubapp
(venv)
minae@eris MINGW64 /c/Nucamp/test/app/mysubapp
$ ls
__init__.py  admin.py  apps.py  migrations/  models.py  tests.py  views.py
(venv)
minae@eris MINGW64 /c/Nucamp/test/app/mysubapp
$ ls migrations
__init__.py
(venv)
minae@eris MINGW64 /c/Nucamp/test/app/mysubapp
$ 
```



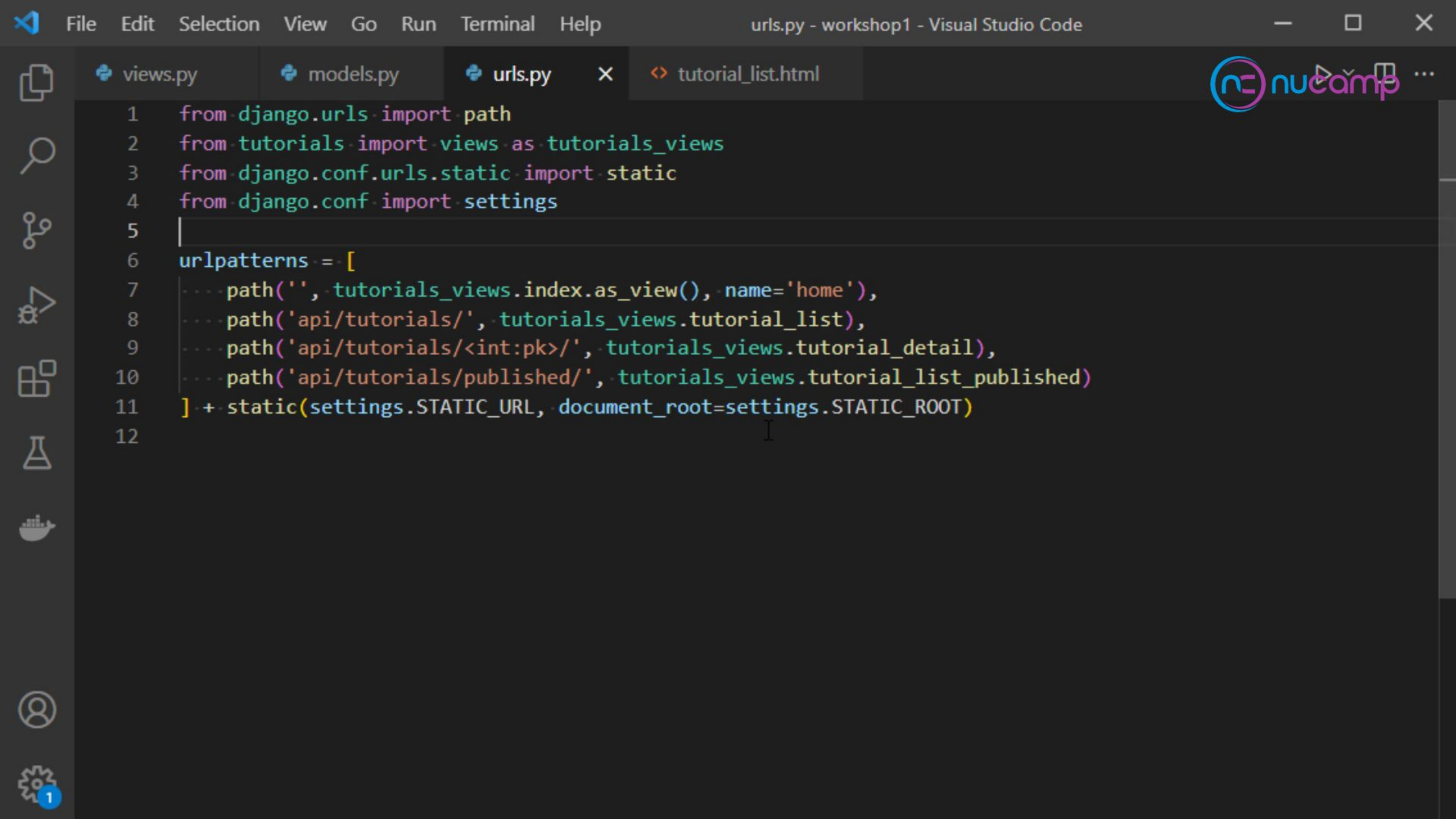
```
$ cat admin.py
from django.contrib import admin

# Register your models here.
(venv)
minae@eris MINGW64 /c/Nucamp/test/app/mysubapp
$ cat apps.py
from django.apps import AppConfig


class MysubappConfig(AppConfig):
    name = 'mysubapp'
(venv)
minae@eris MINGW64 /c/Nucamp/test/app/mysubapp
$ cat models.py
from django.db import models

# Create your models here.
(venv)
minae@eris MINGW64 /c/Nucamp/test/app/mysubapp
$ cat tests.py
from django.test import TestCase

# Create your tests here.
(venv)
minae@eris MINGW64 /c/Nucamp/test/app/mysubapp
$ cat views.py
from django.shortcuts import render

# Create your views here.
(venv)
minae@eris MINGW64 /c/Nucamp/test/app/mysubapp
$
```



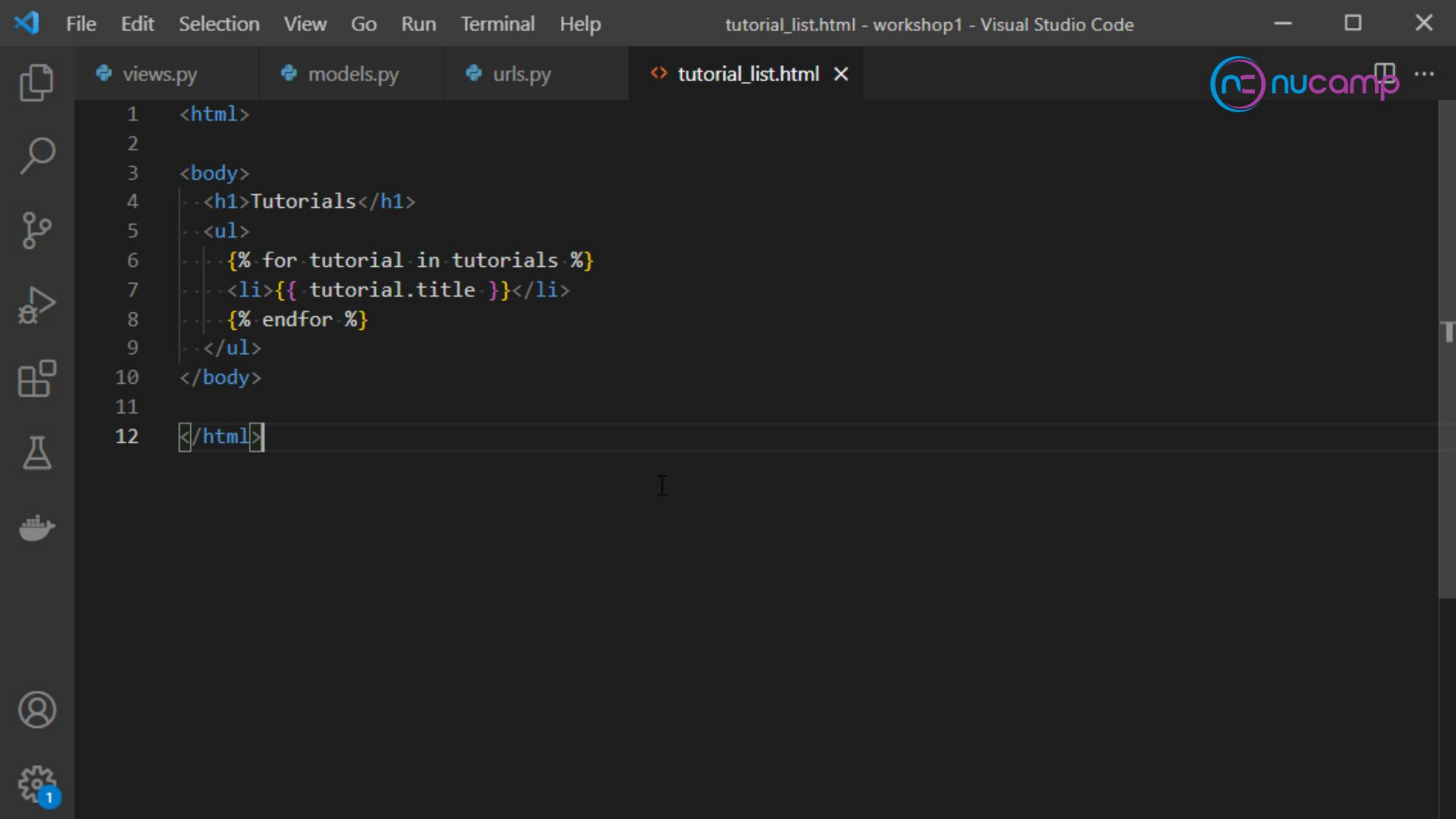
```python
        return Response({'tutorials': queryset})


class list_all_tutorials(APIView):
    renderer_classes = [TemplateHTMLRenderer]
    template_name = 'tutorials/tutorial_list.html'

    def get(self, request):
        queryset = Tutorial.objects.all()
        return Response({'tutorials': queryset})


@api_view(['GET', 'POST', 'DELETE'])
def tutorial_list(request):
    if request.method == 'GET':
        tutorials = Tutorial.objects.all()

        title = request.GET.get('title', None)
        if title is not None:
            tutorials = tutorials.filter(title__icontains=title)

        tutorials_serializer = TutorialSerializer(tutorials, many=True)
        return JsonResponse(tutorials_serializer.data, safe=False)
        # 'safe=False' for objects serialization

```



```python
from django.db import models


class Tutorial(models.Model):
    title = models.CharField(max_length=70, blank=False, default='')
    tutorial_url = models.CharField(max_length=200, blank=False, default='')
    image_path = models.CharField(max_length=150, blank=True, null=True)
    description = models.CharField(max_length=200, blank=False, default='')
    published = models.BooleanField(default=False)

```



```python
from django.urls import path
from tutorials import views as tutorials_views
from django.conf.urls.static import static
from django.conf import settings

urlpatterns = [
    path('', tutorials_views.index.as_view(), name='home'),
    path('api/tutorials/', tutorials_views.tutorial_list),
    path('api/tutorials/<int:pk>/', tutorials_views.tutorial_detail),
    path('api/tutorials/published/', tutorials_views.tutorial_list_published)
] + static(settings.STATIC_URL, document_root=settings.STATIC_ROOT)
```



File Edit Selection View Go Run Terminal Help
tutorial_list.html - workshop1 - Visual Studio Code
views.py
models.py
urls.py
tutorial_list.html
nucamp

```
<html>

<body>
  <h1>Tutorials</h1>
  <ul>
    {% for tutorial in tutorials %}
    <li>{{ tutorial.title }}</li>
    {% endfor %}
  </ul>
</body>

</html>
```