RIGA TECHNICAL UNIVERSITY
TELECOMMUNICATIONS SOFTWARE

THIRD PRACTICAL EXERCISE

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231AEM008

Practical Exercise 3 (Python cloud full stack development)

1. Example1: Django's Hello World program (Tips: • This application inspection of a specific function, please return a string-related web page that can combine with CSS and JS to design your style.)

- ❖ First created a folder “django_project” in the desktop.
- ❖ Installed Django.
- ❖ Confirmed the version.

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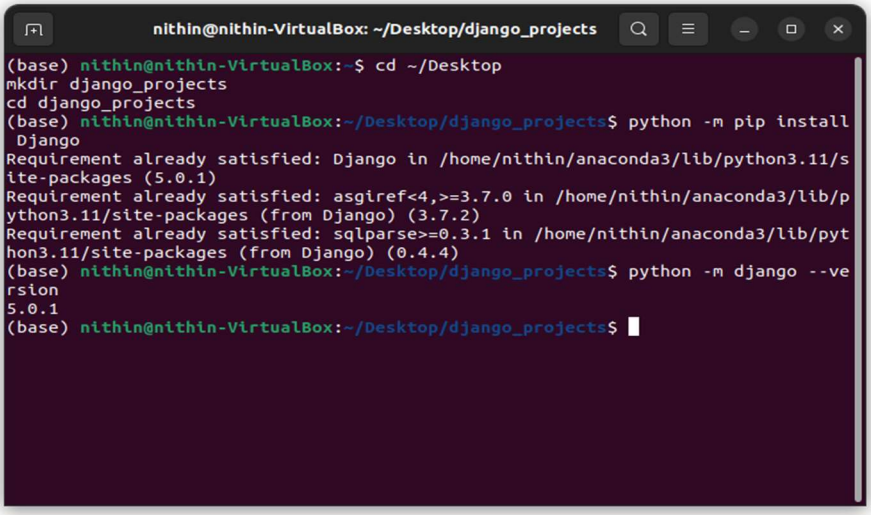
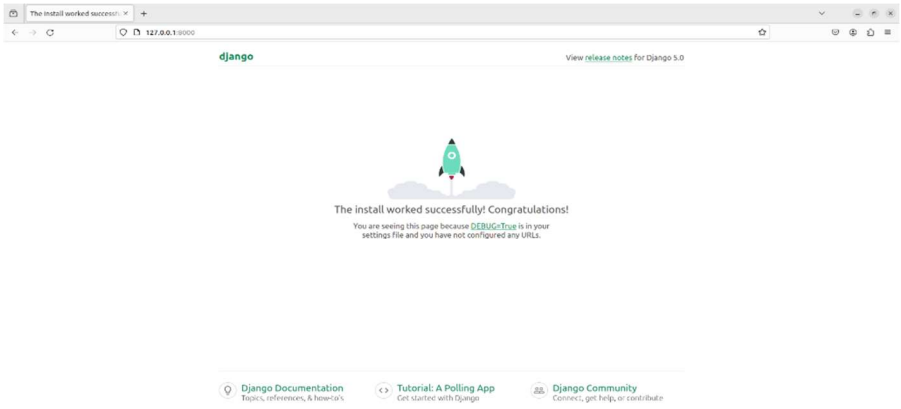
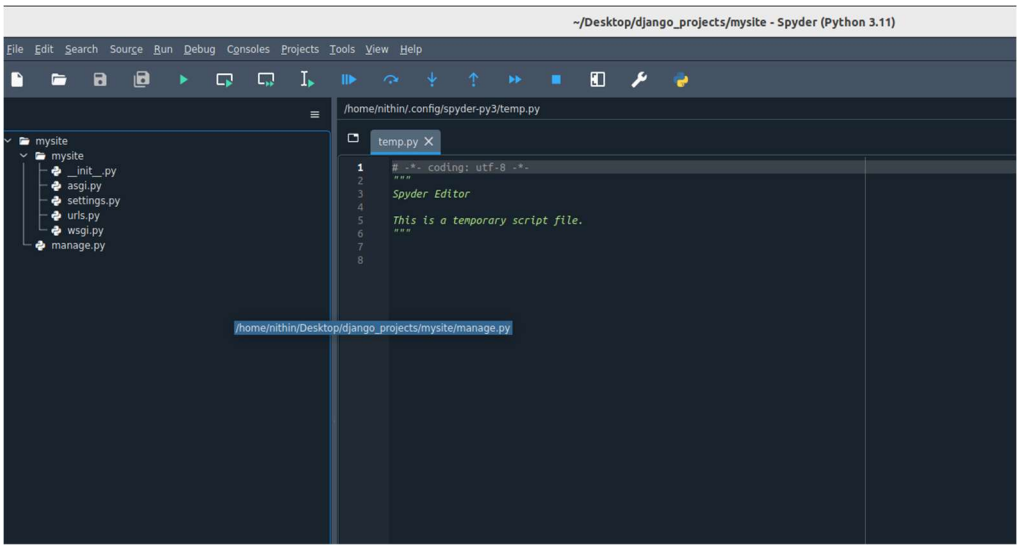


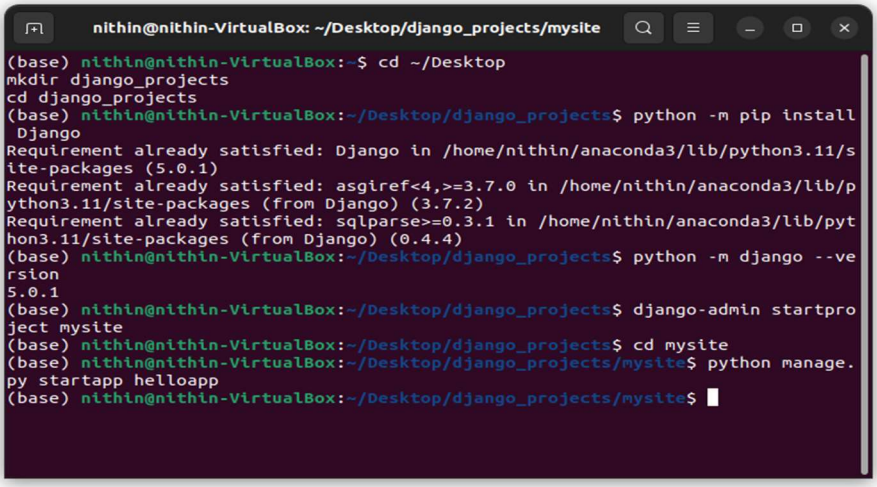
- ❖ Django is successfully installed.



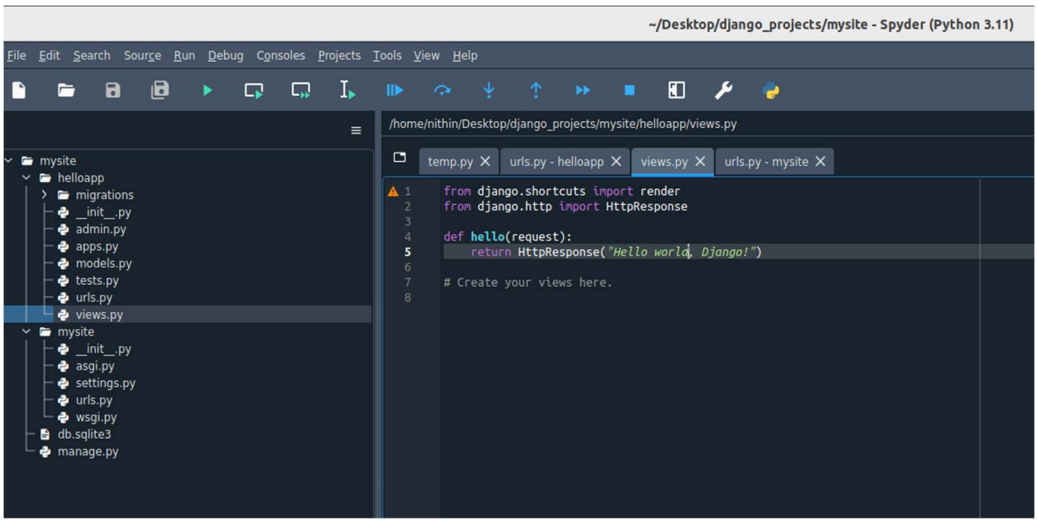
- ❖ Created a project “mysite”.



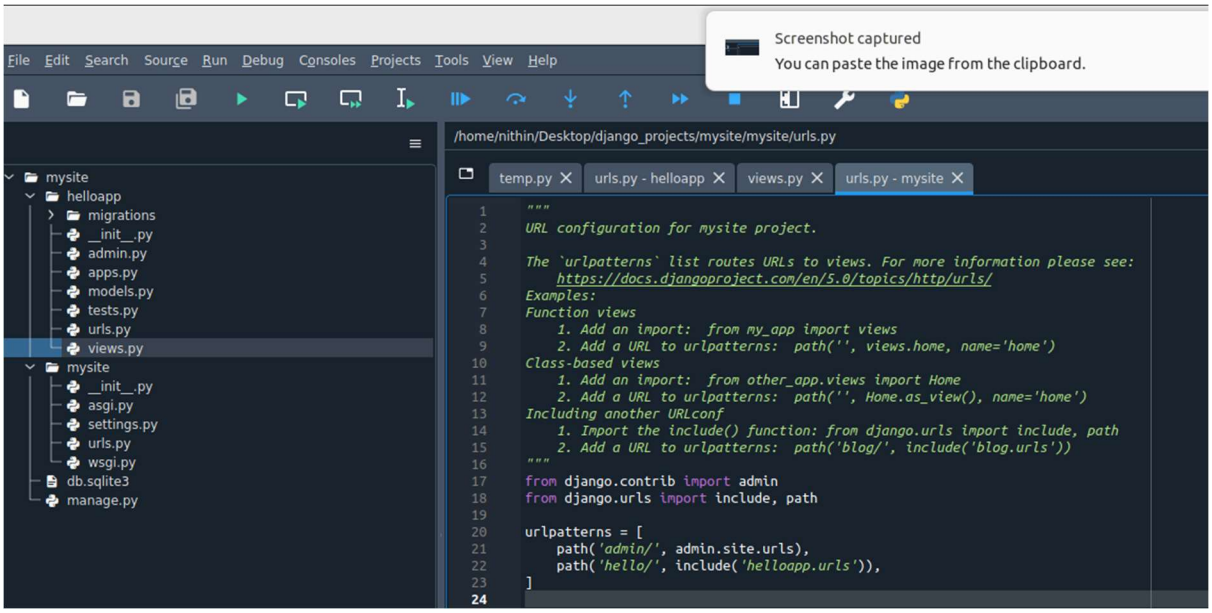
- Created an app “helloapp” in mysite.



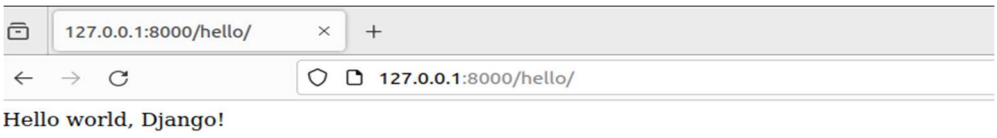
- Entered the code to view the string, “Hello world, Django” in the views.py file of helloapp.



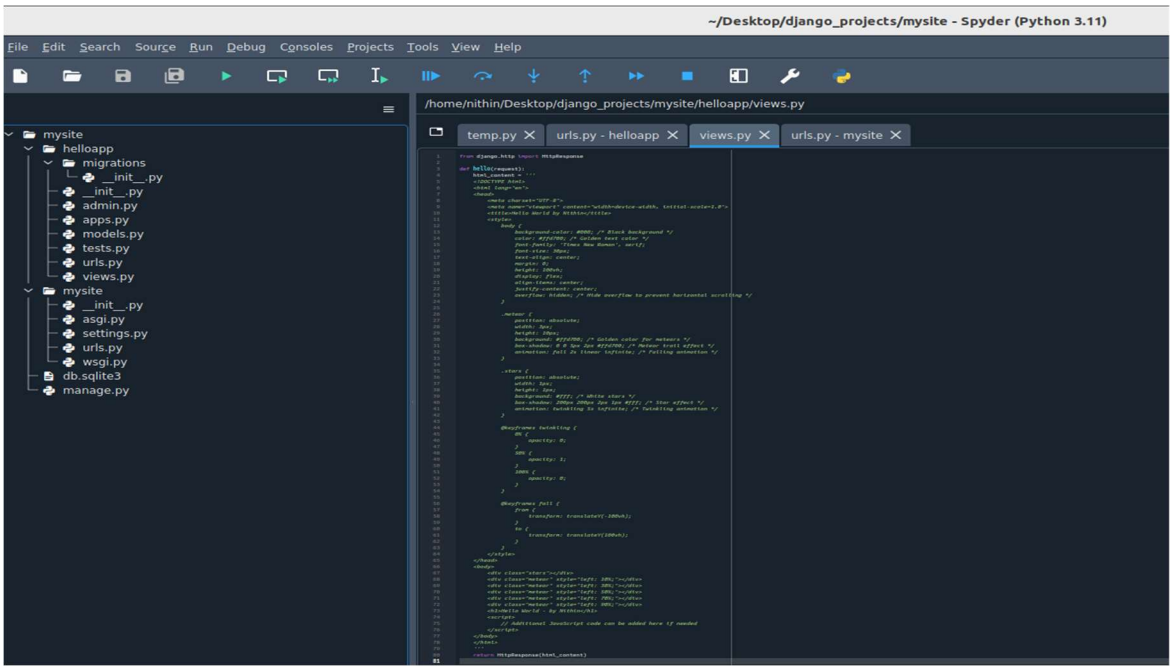
- Entered the URLs code to view the string in the urls.py file of the app and shared the path with the urls.py file of mysite folder.



- Then in the project folder run the following command to run the server
python manage.py run server and copied the url http://127.0.0.1:8000/hello/

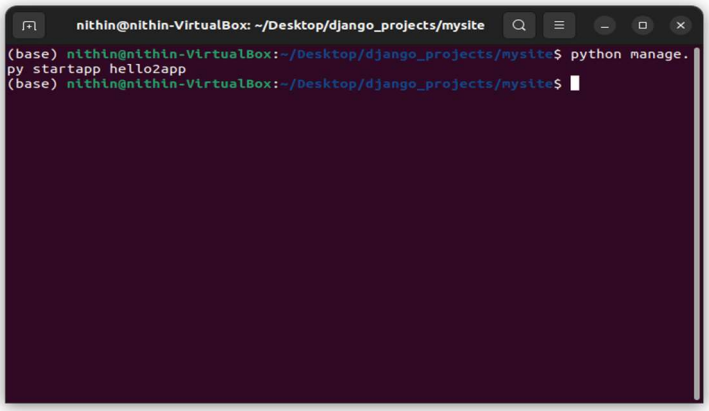


❖ Now made some changes in the views.py file to customize the web page.

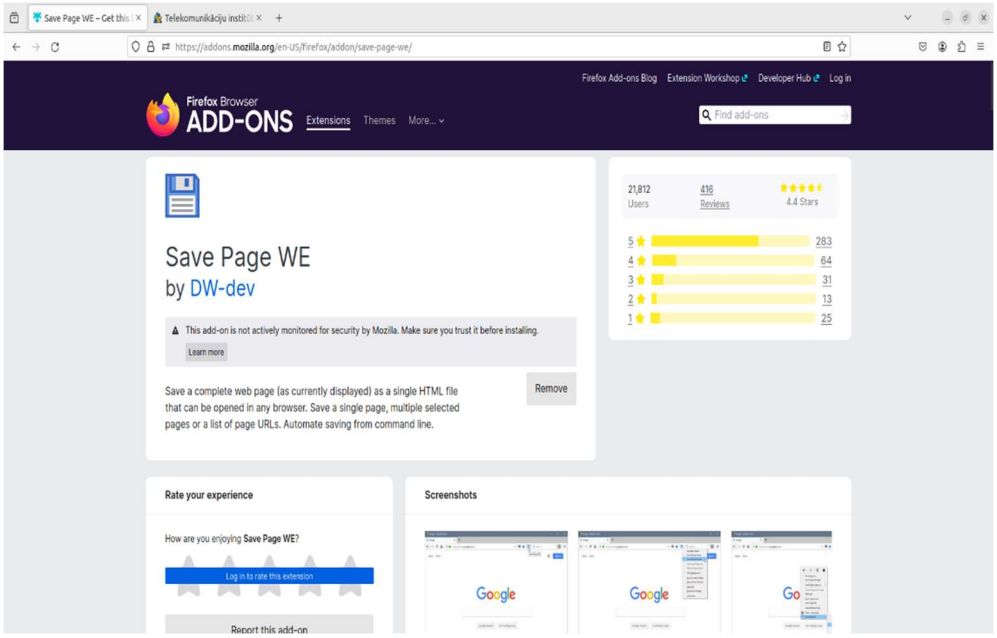


2. Example 2: Improve example 1 and return an HTML page, not a string; please use MVT (Model View Template) to design the pattern. You are welcome to use multiple decorations on your HTML page.

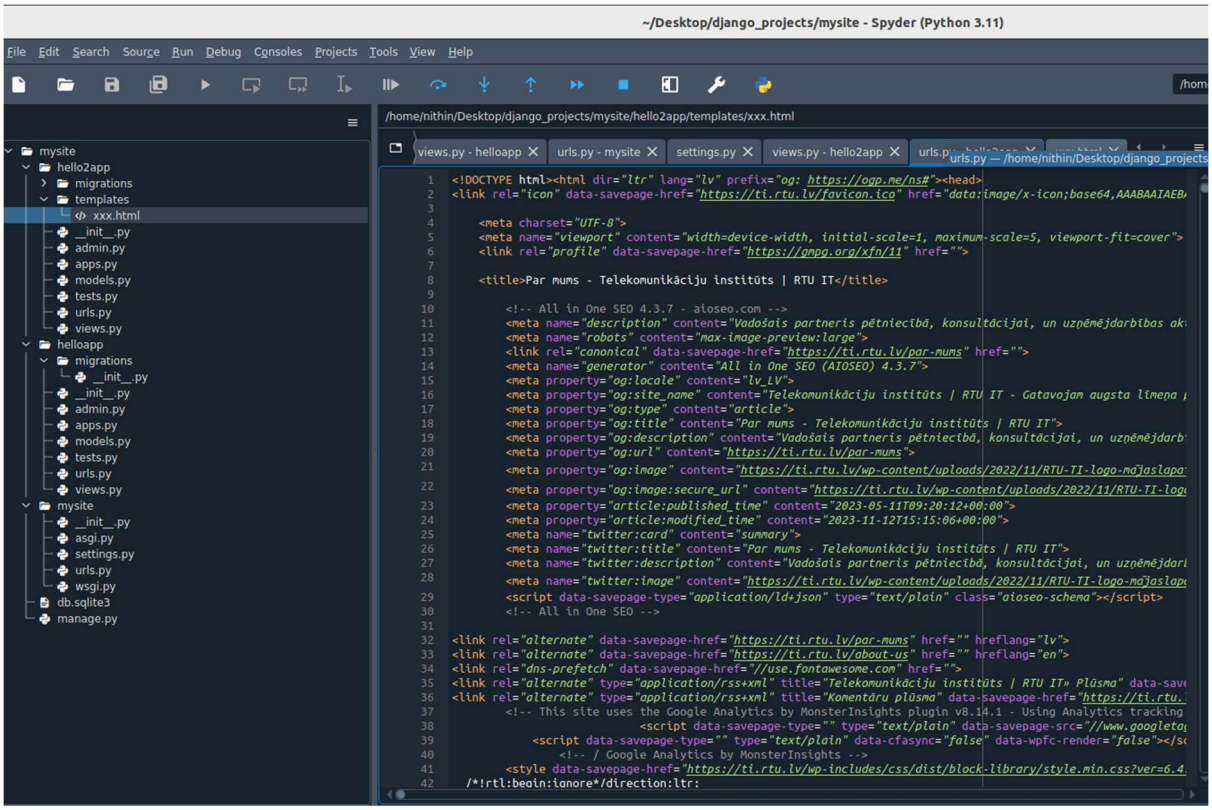
- Created a new app “hello2ap” in the already created project of example1.



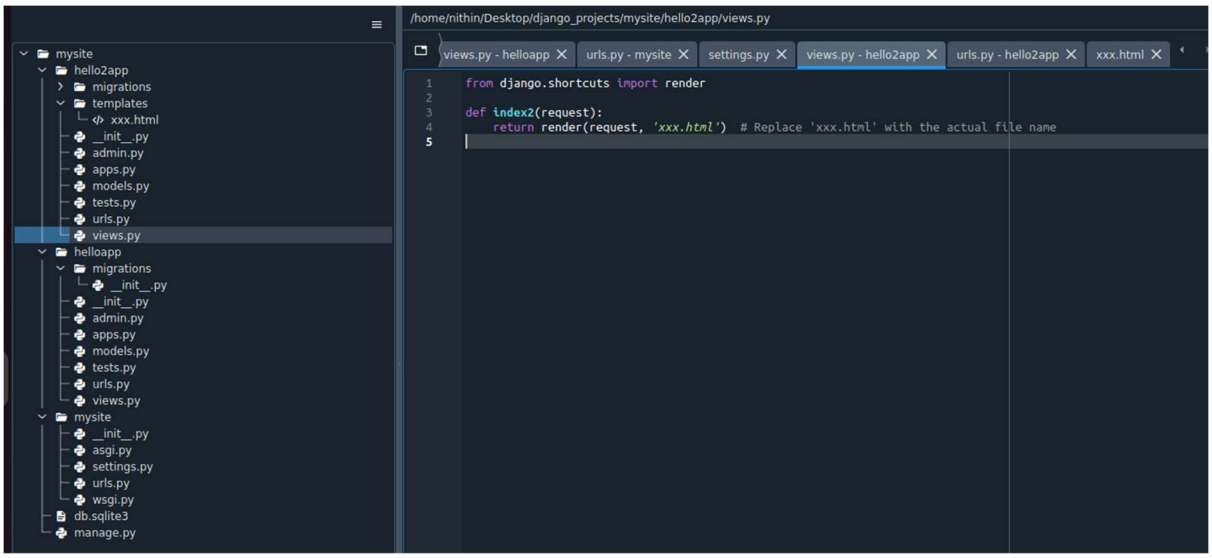
- Saved the HTML page as xxx.html using the Firefox plugin
- Open Firefox and go to check ti.rtu.lv.
- Use the Save Page WE plugin (https://addons.mozilla.org/en-US/firefox/addon/save-page-we/) to save the HTML page as xxx.html.



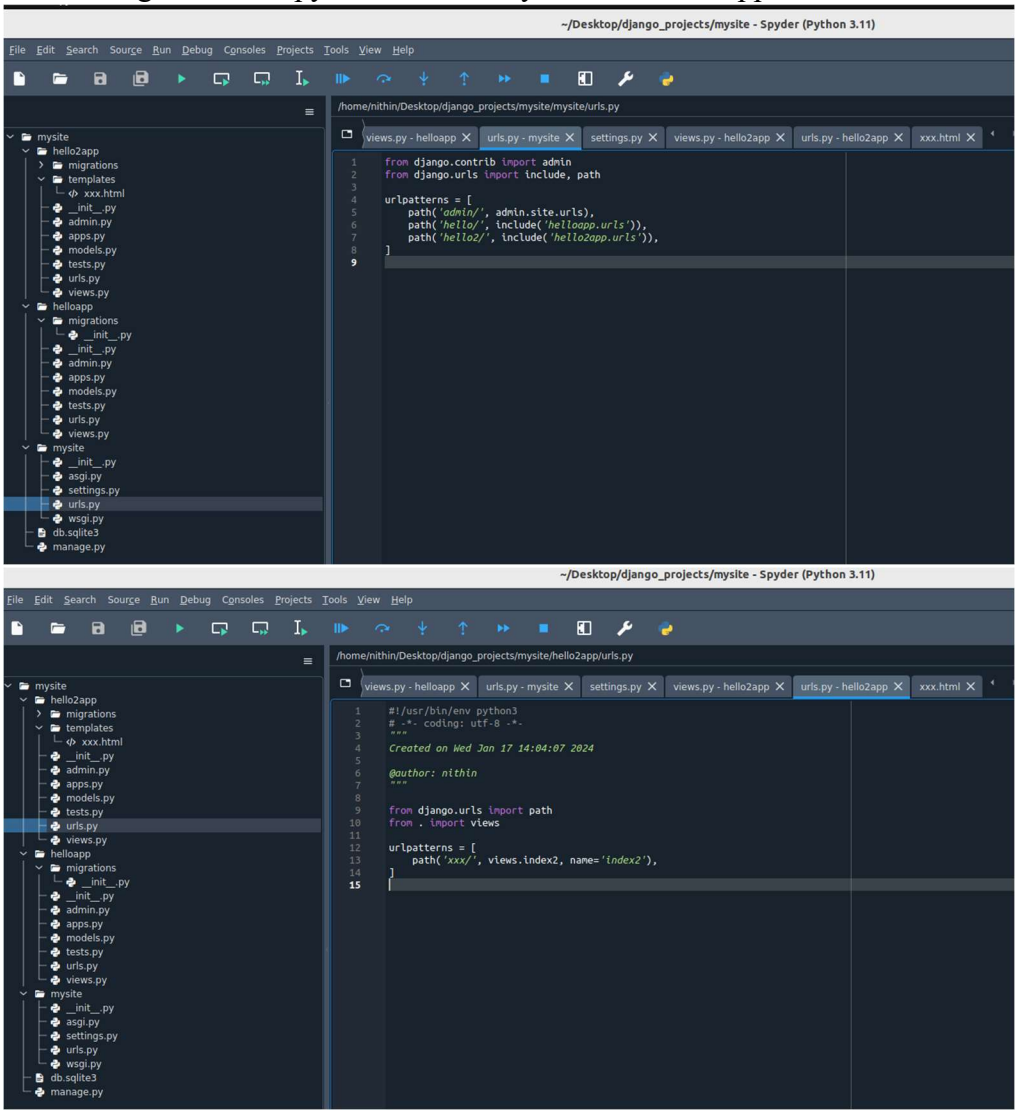
❖ Save the HTML file inside a new folder named "templates" within the "hello2app" directory.



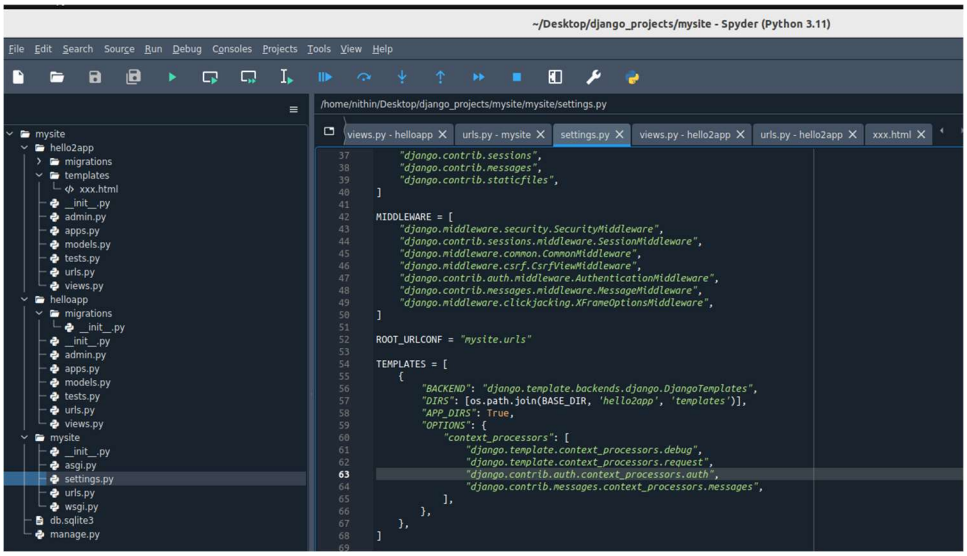
❖ Modified the views.py file with the following code:



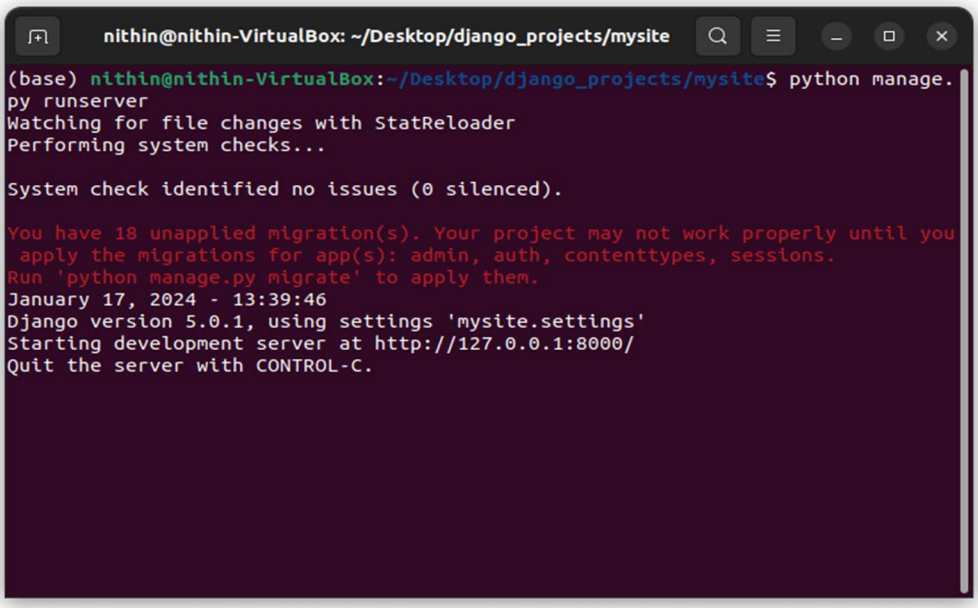
❖ Then changed the urls.py file for both mysite and hello2app.



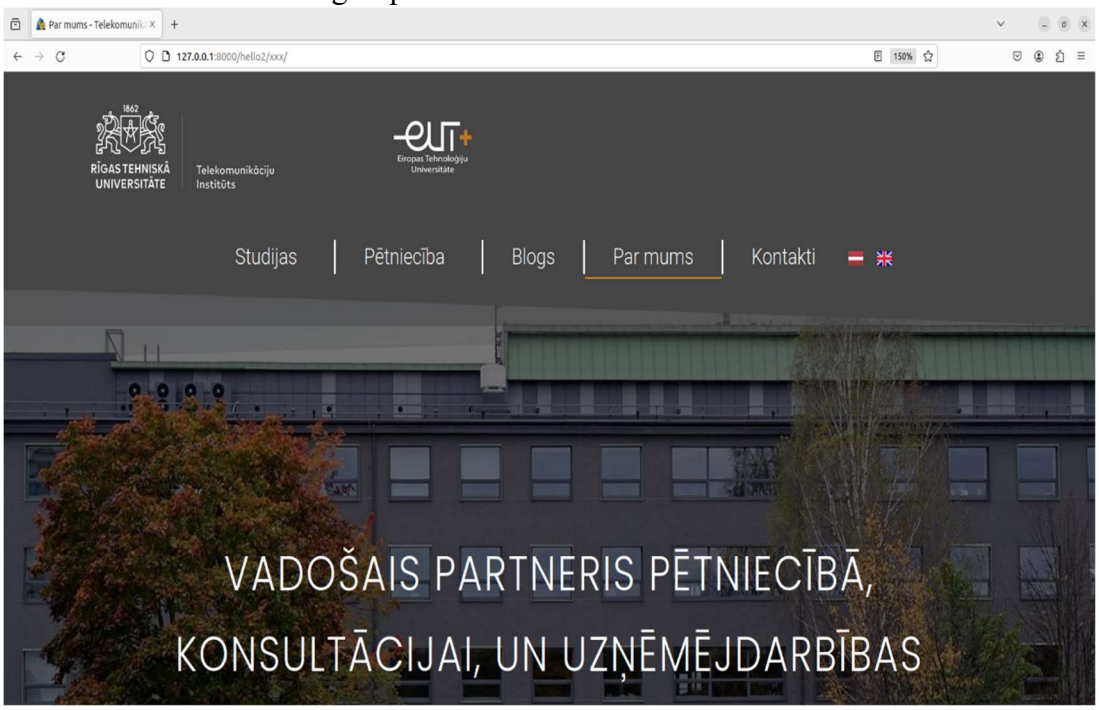
❖ Set the template path in settings.py



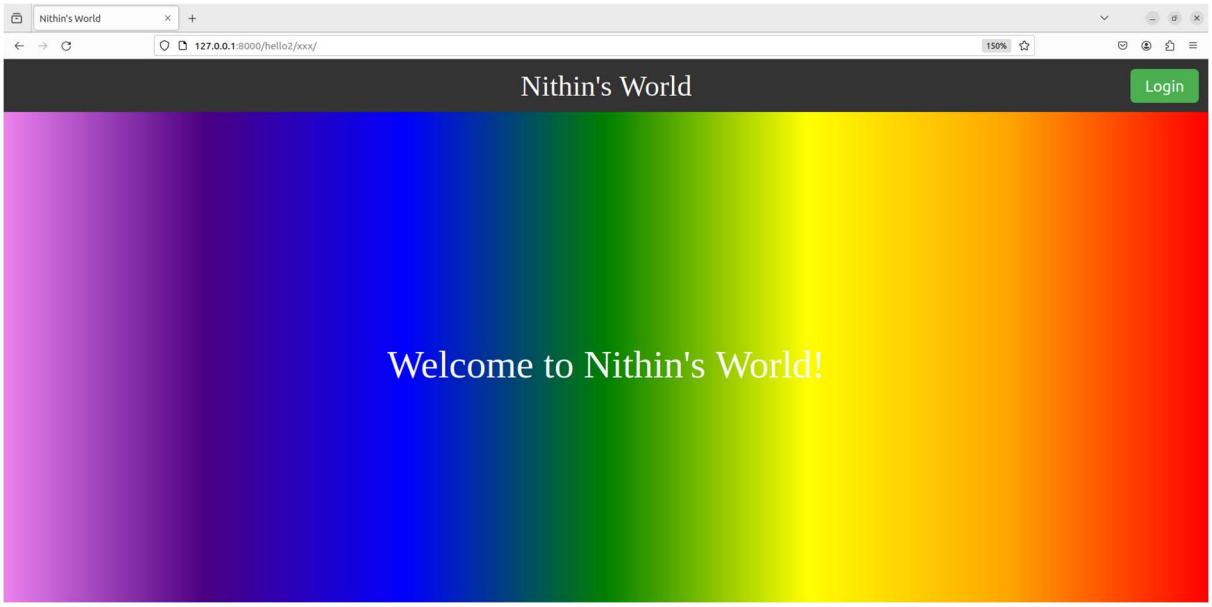
❖ Now run the following command



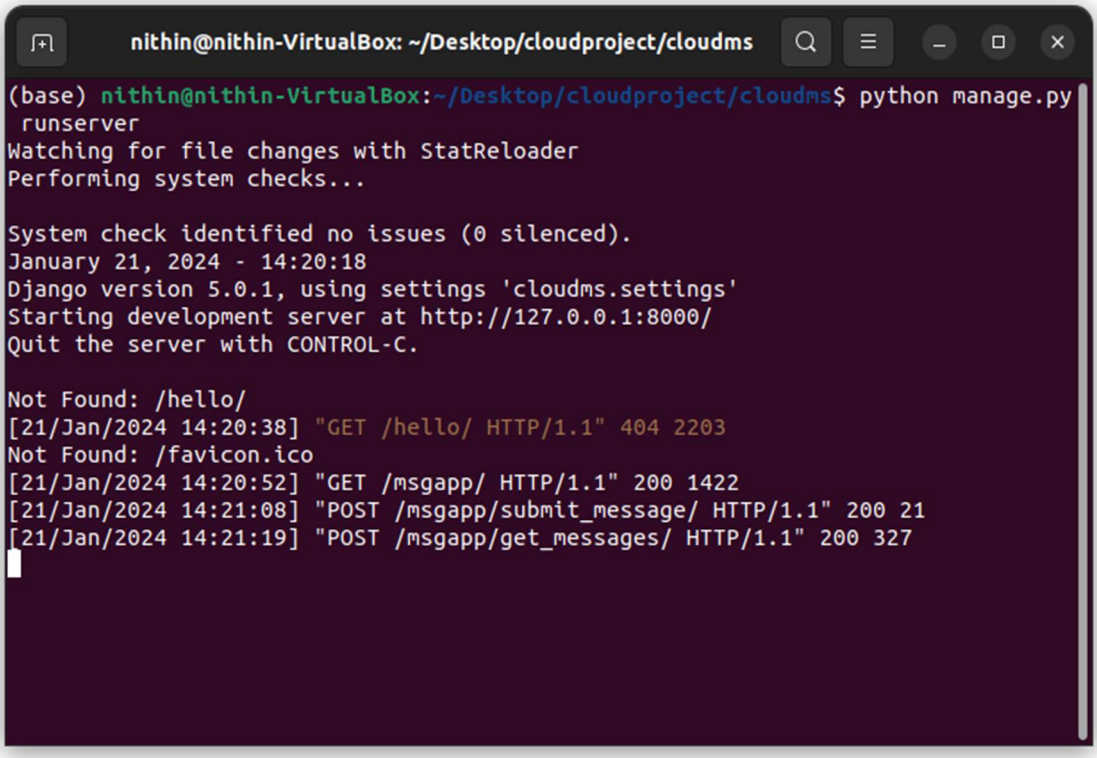
❖ And browse the following http://127.0.0.1:8000/hello2/xxx/



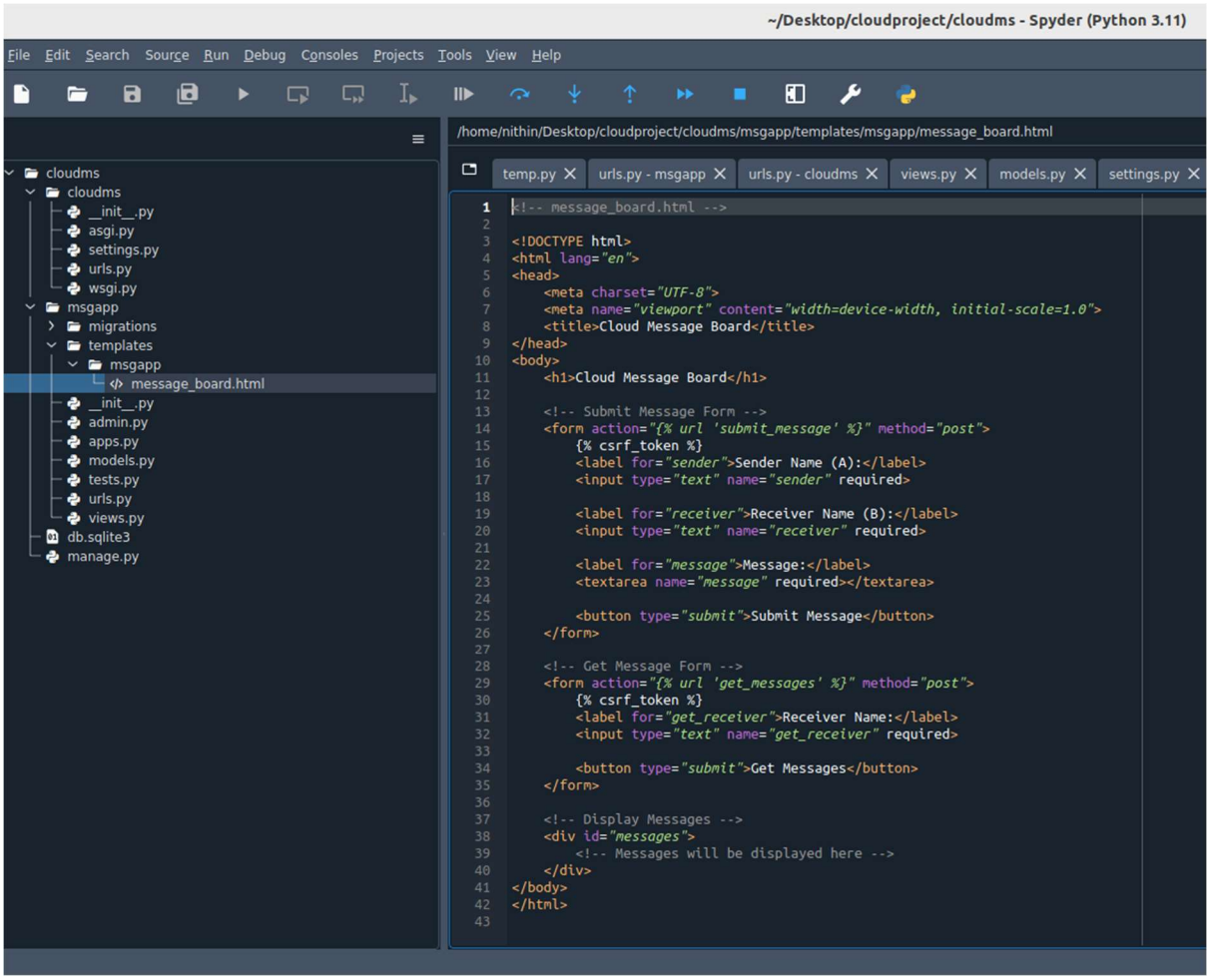
❖ I also tried to create some other webpage html file and return it.



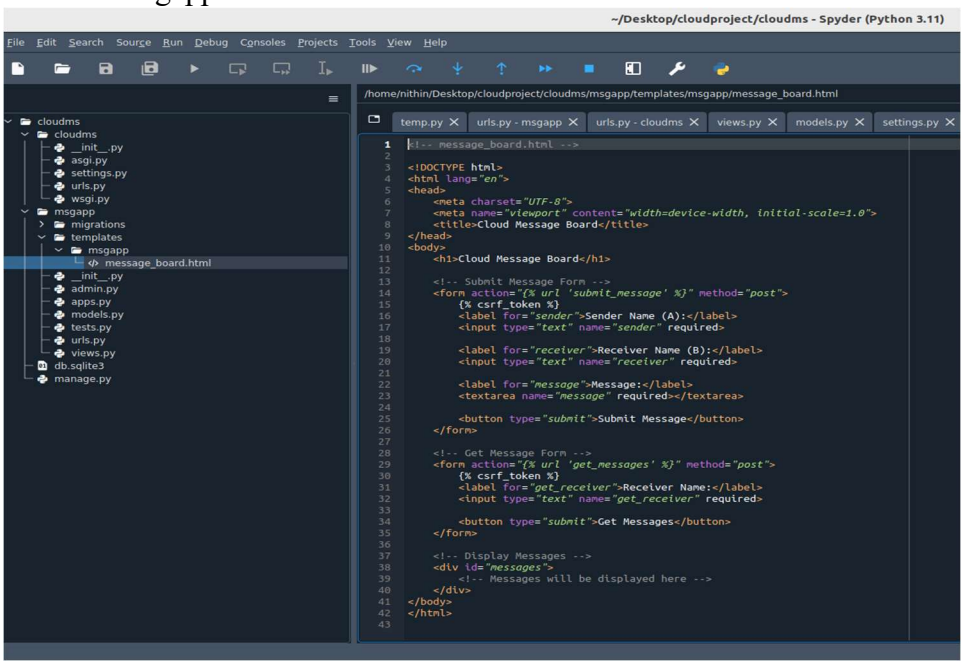
3. Example 3: Cloud message board.
    - Create another new Django project

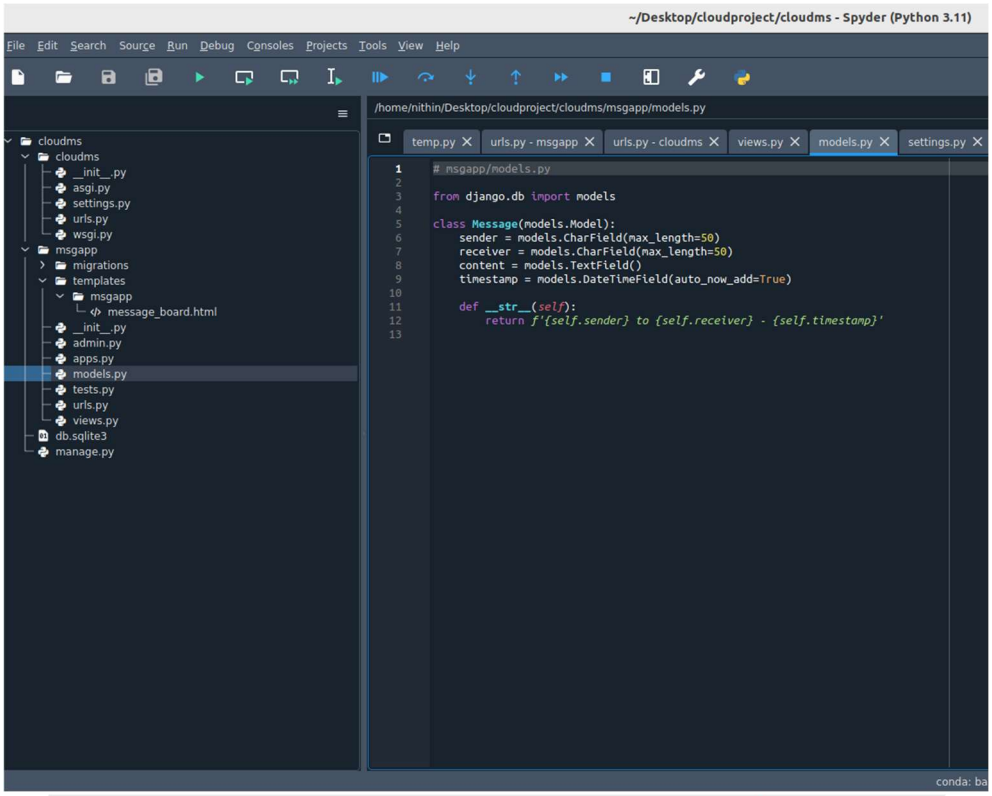


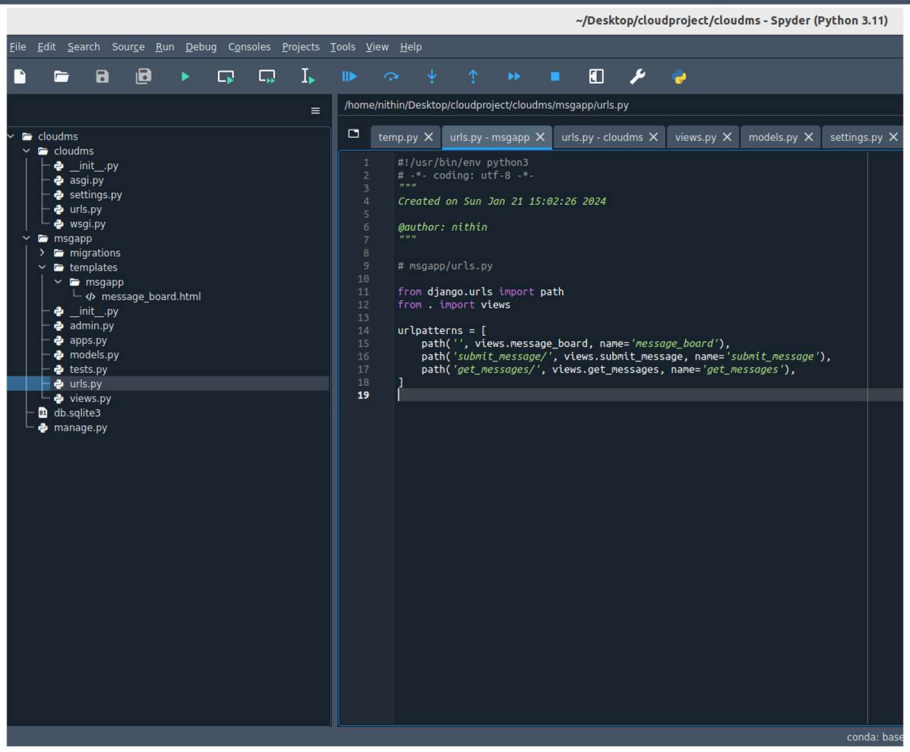
    - Creating an HTML file for the message board display. Let's name it **message_board.html**. Save it inside a new folder named "templates" within the "msgapp" directory.

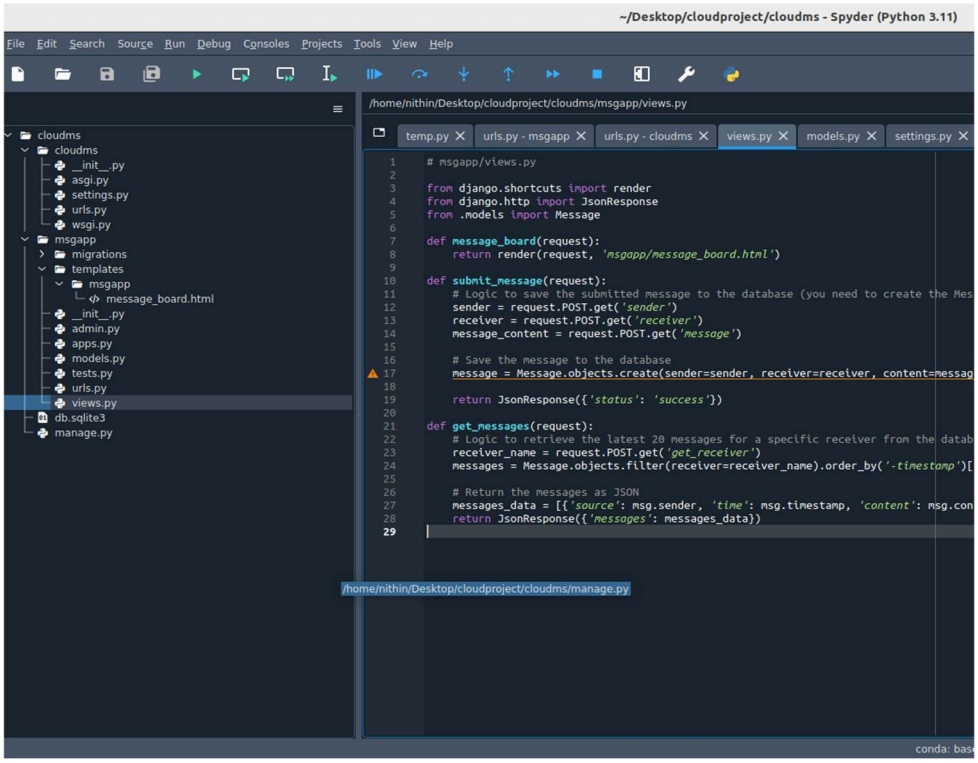


- Enter the codes for views.py to view our web page and also enter the urls.py codes in msgapp and combine it with the main cloudms.

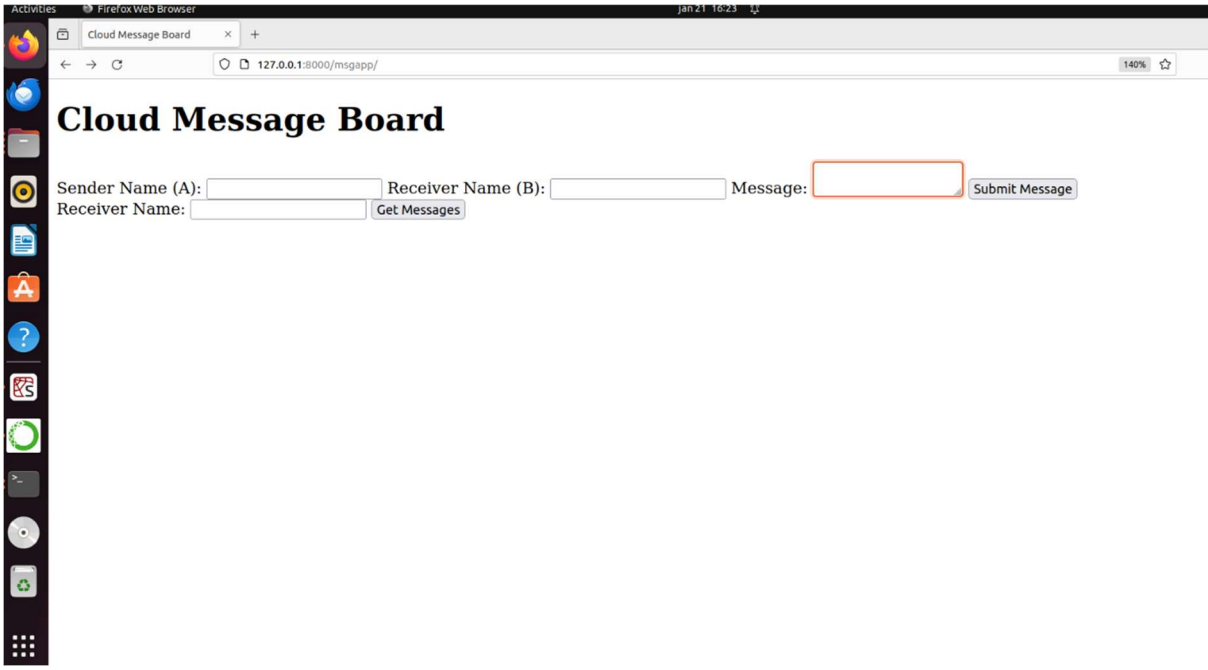


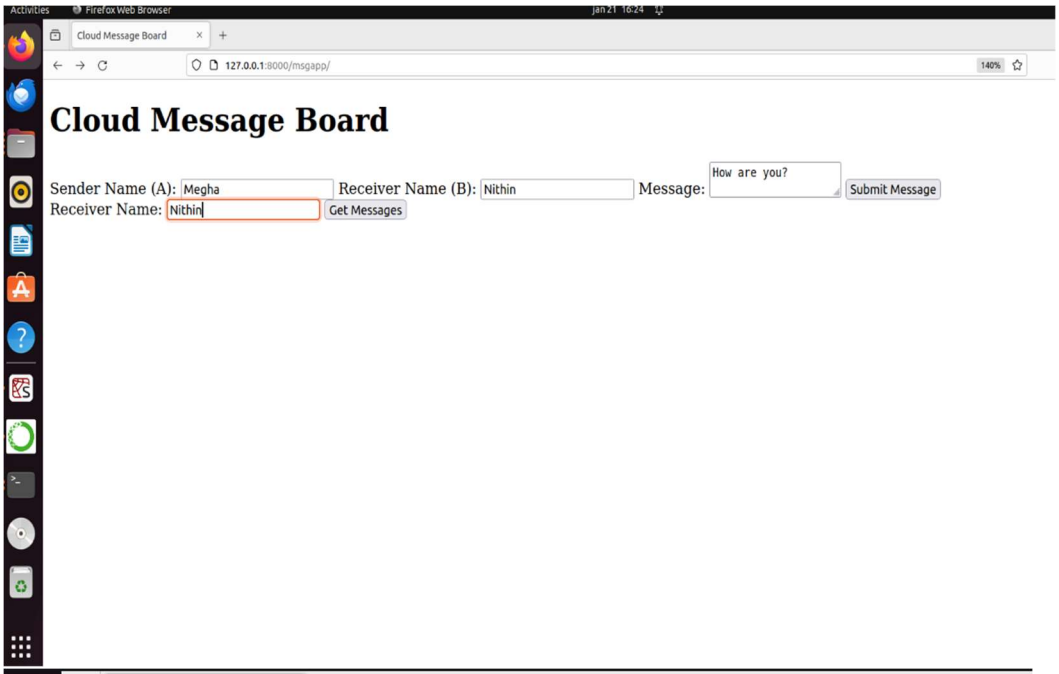

~/Desktop/cloudproject/cloudms - Spyder (Python 3.11)
File Edit Search Source Run Debug Consoles Projects Tools View Help
/home/nithin/Desktop/cloudproject/cloudms/msgapp/models.py
temp.py
urls.py - msgapp
urls.py - cloudms
views.py
models.py
settings.py
cloudms
cloudms
__init__.py
asgi.py
settings.py
urls.py
wsgi.py
msgapp
migrations
templates
msgapp
message_board.html
__init__.py
admin.py
apps.py
models.py
tests.py
urls.py
views.py
db.sqlite3
manage.py
# msgapp/models.py
from django.db import models
class Message(models.Model):
sender = models.CharField(max_length=50)
receiver = models.CharField(max_length=50)
content = models.TextField()
timestamp = models.DateTimeField(auto_now_add=True)
def __str__(self):
return f'{self.sender} to {self.receiver} - {self.timestamp}'
conda: ba

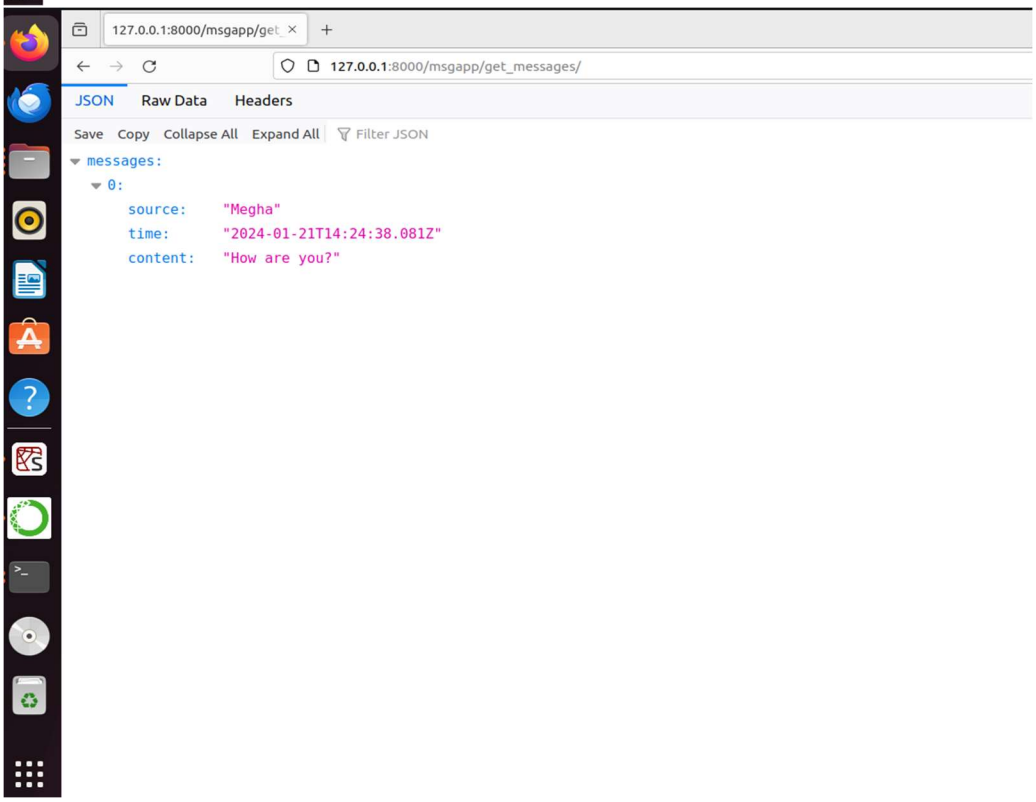

~/Desktop/cloudproject/cloudms - Spyder (Python 3.11)
File Edit Search Source Run Debug Consoles Projects Tools View Help
/home/nithin/Desktop/cloudproject/cloudms/msgapp/urls.py
temp.py
urls.py - msgapp
urls.py - cloudms
views.py
models.py
settings.py
cloudms
cloudms
__init__.py
asgi.py
settings.py
urls.py
wsgi.py
msgapp
migrations
templates
msgapp
message_board.html
__init__.py
admin.py
apps.py
models.py
tests.py
urls.py
views.py
db.sqlite3
manage.py
#!/usr/bin/env python3
-*- coding: utf-8 -*-
"""
Created on Sun Jan 21 15:02:26 2024
@author: nithin
"""
# msgapp/urls.py
from django.urls import path
from . import views
urlpatterns = [
path('', views.message_board, name='message_board'),
path('submit_message/', views.submit_message, name='submit_message'),
path('get_messages/', views.get_messages, name='get_messages'),
]
conda: base

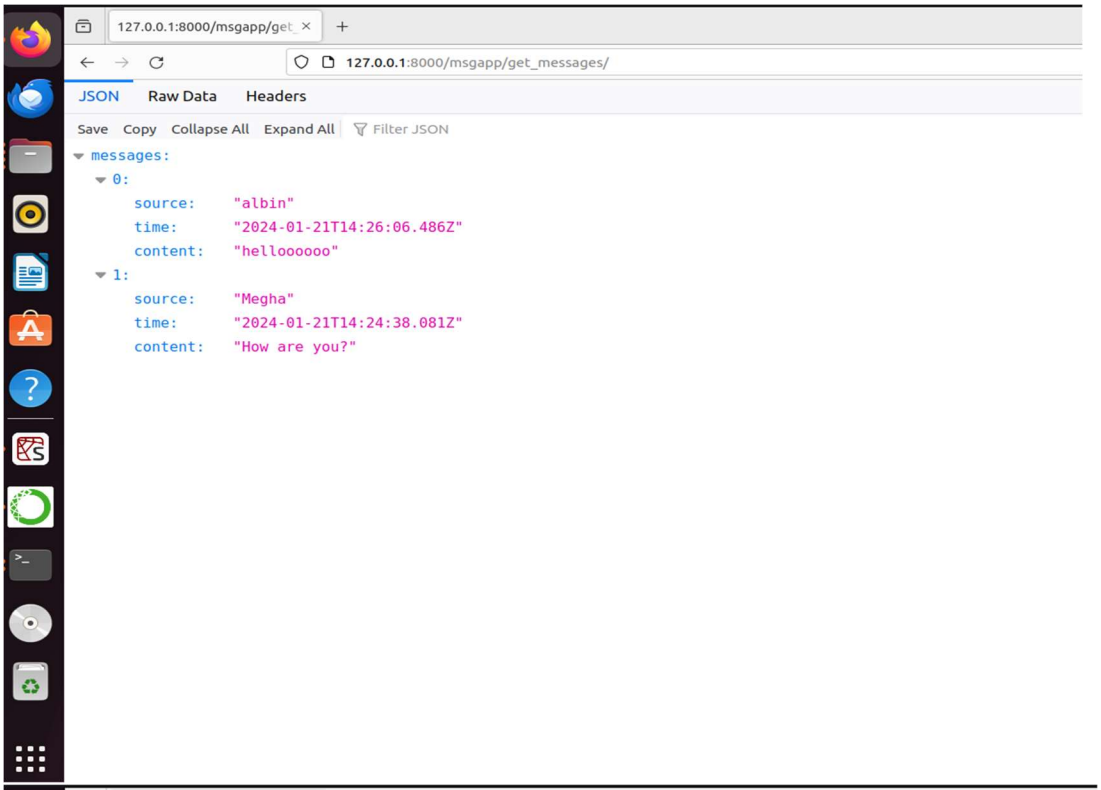


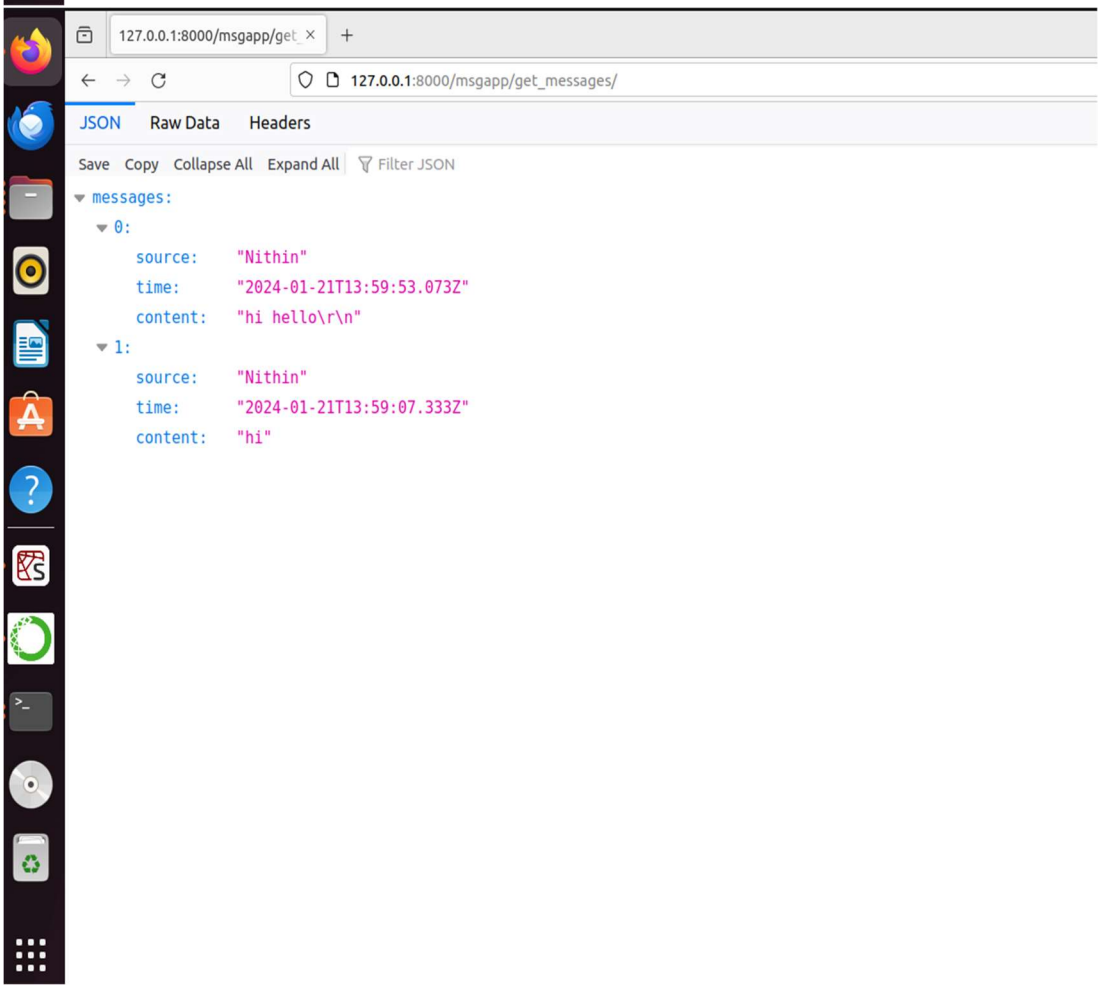
- Now run the server and use this url to enter the web site.
  http://127.0.0.1:8000/msgapp/




Activities
Firefox Web Browser
Jan 21 16:24
Cloud Message Board
127.0.0.1:8000/msgapp/
140%
Cloud Message Board
Sender Name (A): Megha
Receiver Name (B): Nithin
Message: How are you?
Submit Message
Receiver Name: Nithin
Get Messages

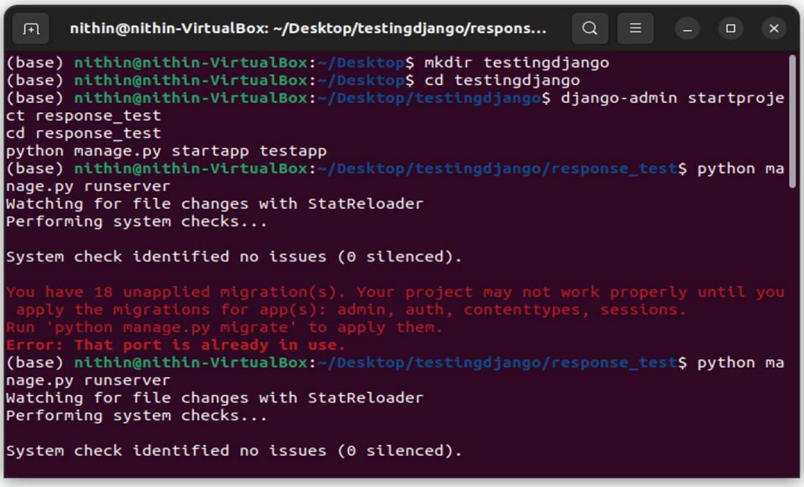

127.0.0.1:8000/msgapp/get_
127.0.0.1:8000/msgapp/get_messages/
JSON
Raw Data
Headers
Save
Copy
Collapse All
Expand All
Filter JSON
messages:
0:
source: "Megha"
time: "2024-01-21T14:24:38.081Z"
content: "How are you?"


127.0.0.1:8000/msgapp/get_
127.0.0.1:8000/msgapp/get_messages/
JSON
Raw Data
Headers
Save
Copy
Collapse All
Expand All
Filter JSON
messages:
0:
source: "albin"
time: "2024-01-21T14:26:06.486Z"
content: "hellooooooo"
1:
source: "Megha"
time: "2024-01-21T14:24:38.081Z"
content: "How are you?"

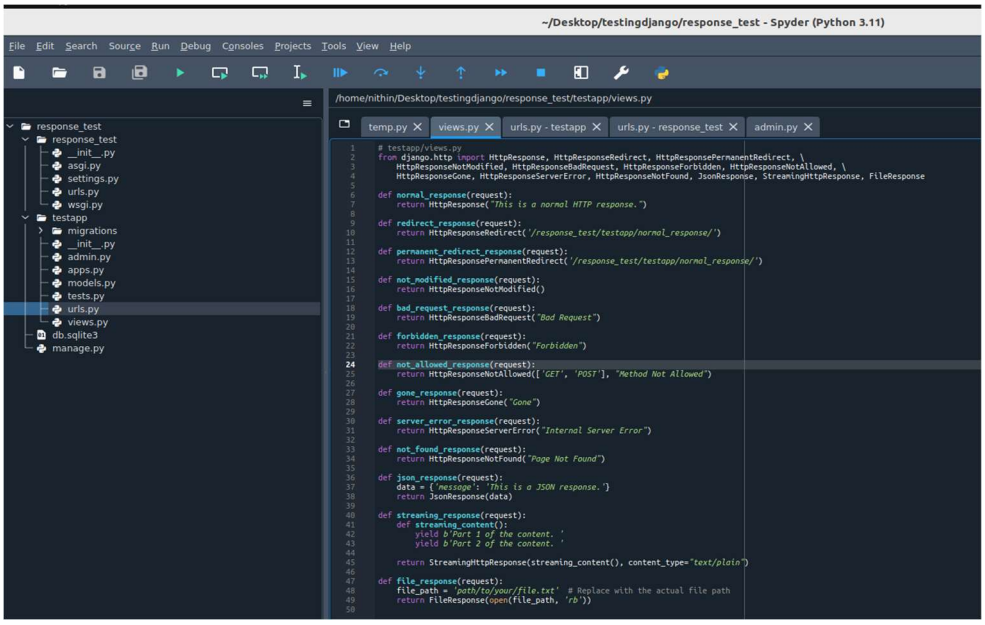

127.0.0.1:8000/msgapp/get_
127.0.0.1:8000/msgapp/get_messages/
JSON
Raw Data
Headers
Save
Copy
Collapse All
Expand All
Filter JSON
messages:
0:
source: "Nithin"
time: "2024-01-21T13:59:53.073Z"
content: "hi hello\r\n"
1:
source: "Nithin"
time: "2024-01-21T13:59:07.333Z"
content: "hi"

4. Example 4: Please try to test Django's different response types, including HttpResponse class and subclasses (10 in total), JsonResponse class, StreamingHttpResponse, and FileResponse class. Please show those response files, JSON, or video on your screenshot.

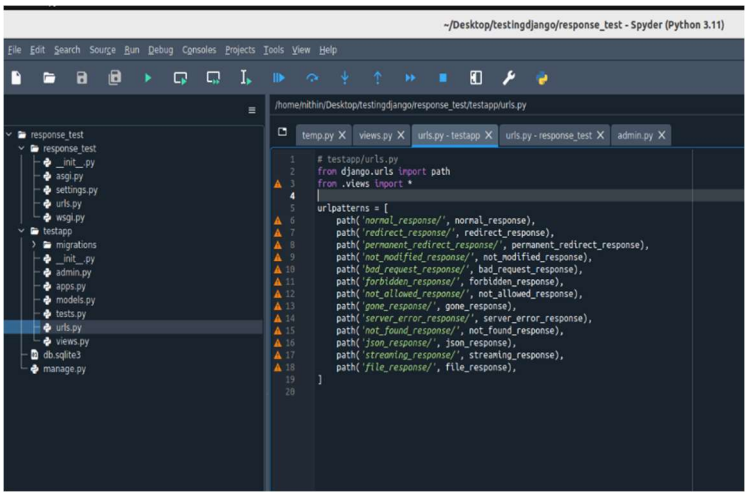
❖ Create a New Django Project and App



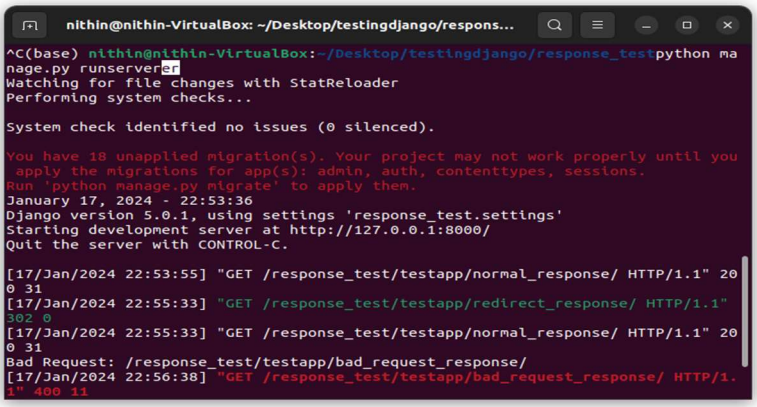
❖ Define View Functions



❖ Configure URLs and Include App URLs in Project URLs



❖ Run the Server



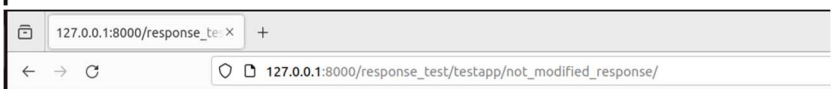
❖ Outputs for all the responses

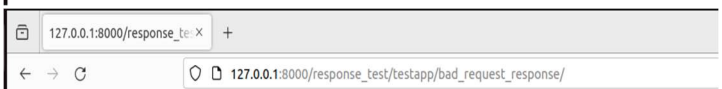
- **HttpResponse** and its subclasses (10 in total):
- **HttpResponse**
- **HttpResponseRedirect**
- **HttpResponsePermanentRedirect**
- **HttpResponseNotModified**
- **HttpResponseBadRequest**
- **HttpResponseForbidden**
- **HttpResponseNotAllowed**
- **HttpResponseGone**
- **HttpResponseServerError**
- **HttpResponseNotFound**
- **JsonResponse** class.
- **StreamingHttpResponse** class.
- **FileResponse** class.

This is a normal HTTP response.

This is a normal HTTP response.

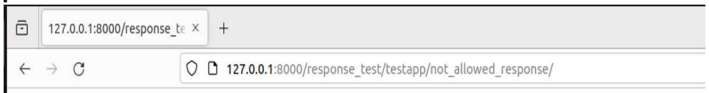
This is a normal HTTP response.





Bad Request

Forbidden



Method Not Allowed

127.0.0.1:8000/response_te

127.0.0.1:8000/response_test/testapp/gone_response/

Gone

127.0.0.1:8000/response_te

127.0.0.1:8000/response_test/testapp/server_error_response/

Internal Server Error

127.0.0.1:8000/response_te

127.0.0.1:8000/response_test/testapp/not_Found_response/

Page Not Found

127.0.0.1:8000/response_te

127.0.0.1:8000/response_test/testapp/json_response/

JSON Raw Data Headers

Save Copy Collapse All Expand All Filter JSON

```
message:   "This is a JSON response."
```

127.0.0.1:8000/response_te

127.0.0.1:8000/response_test/testapp/streaming_response/

```
Part 1 of the content. Part 2 of the content.
```

flower.jpeg (JPEG Image, 27

127.0.0.1:8000/response_test/testapp/file_response/