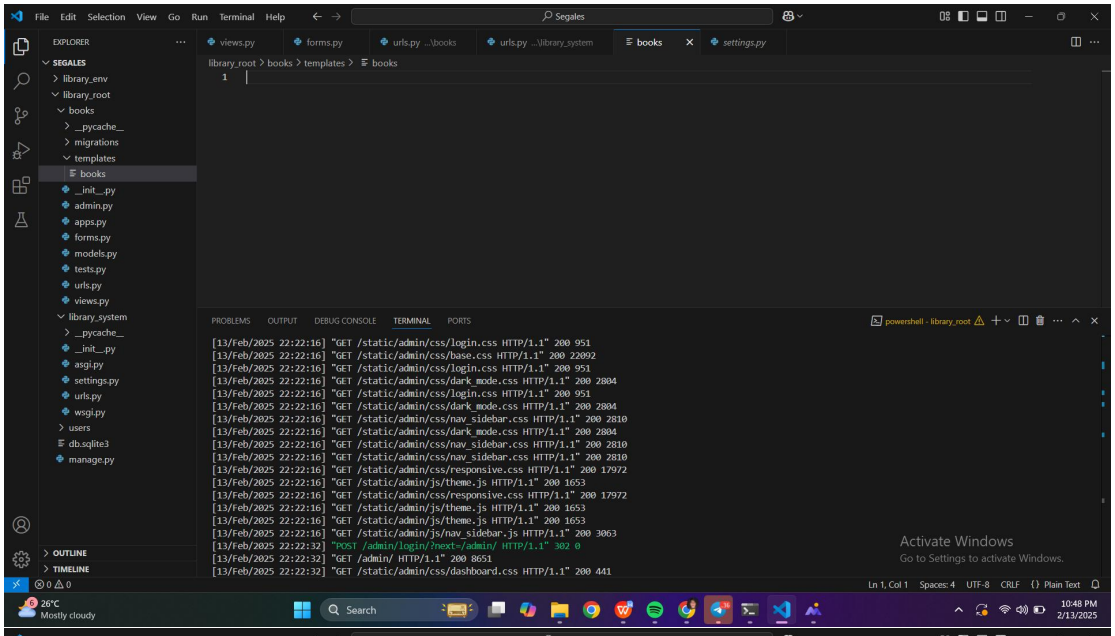
SEGALES, ACE NIÑO B.
BSCPE 2A

Laboratory Activity No. 3:

Topic belongs to: Programming Constructs and Paradigms
Title: Implementing CRUD Operations for Books and Users in the Library Management System
Introduction:
This activity involves implementing CRUD (Create, Read, Update, Delete) operations for books and users in the Library Management System. You will create views and forms to handle these operations via a web interface.

Results:
The user can now view the list of books, add new books, update existing books, and delete
books**.**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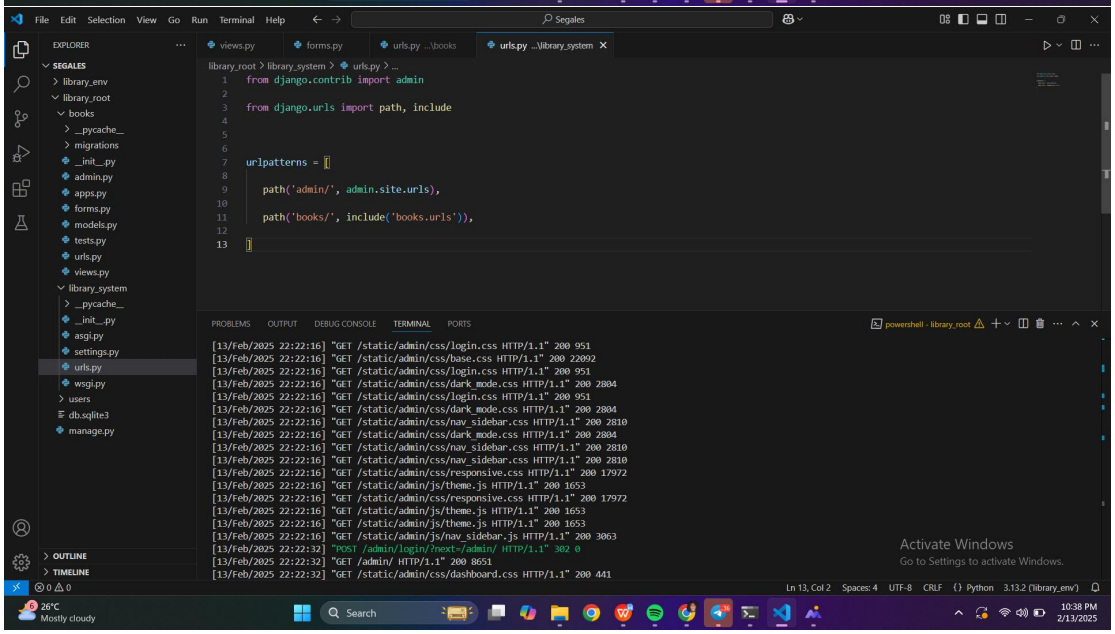
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library_root > library_system > urls.py > ...
1 from django.contrib import admin
3 from django.urls import path, include
7 urlpatterns = [
9 path('admin/', admin.site.urls),
11 path('books/', include('books.urls')),
13]
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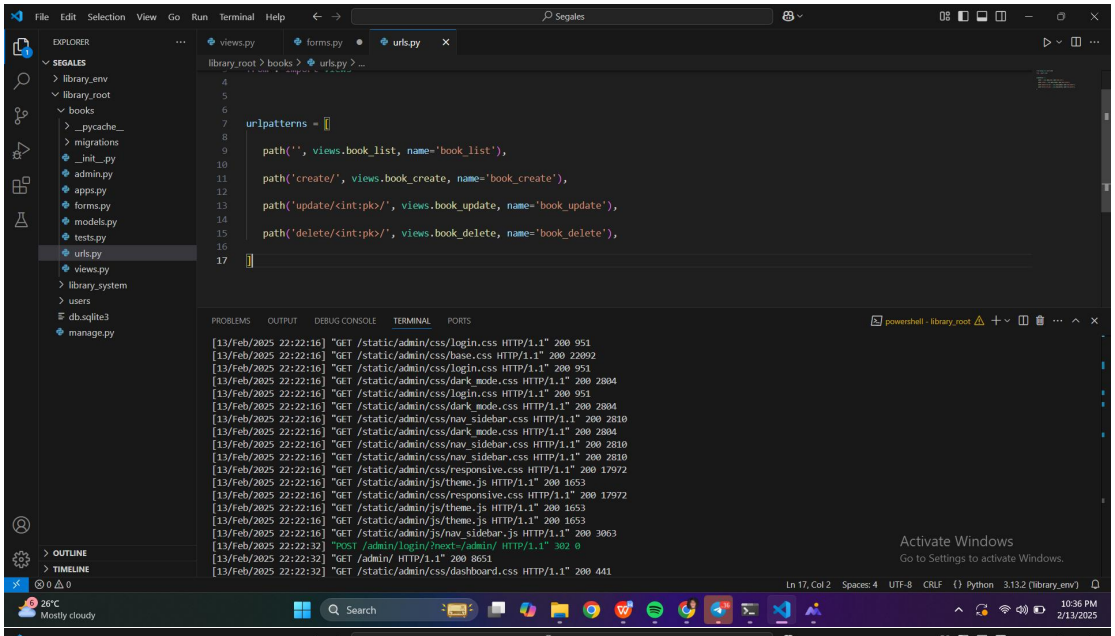
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urls.py
library_root > books > urls.py > ...
urlpatterns = [
path('', views.book_list, name='book_list'),
path('create/', views.book_create, name='book_create'),
path('update/<int:pk>/', views.book_update, name='book_update'),
path('delete/<int:pk>/', views.book_delete, name='book_delete'),
]
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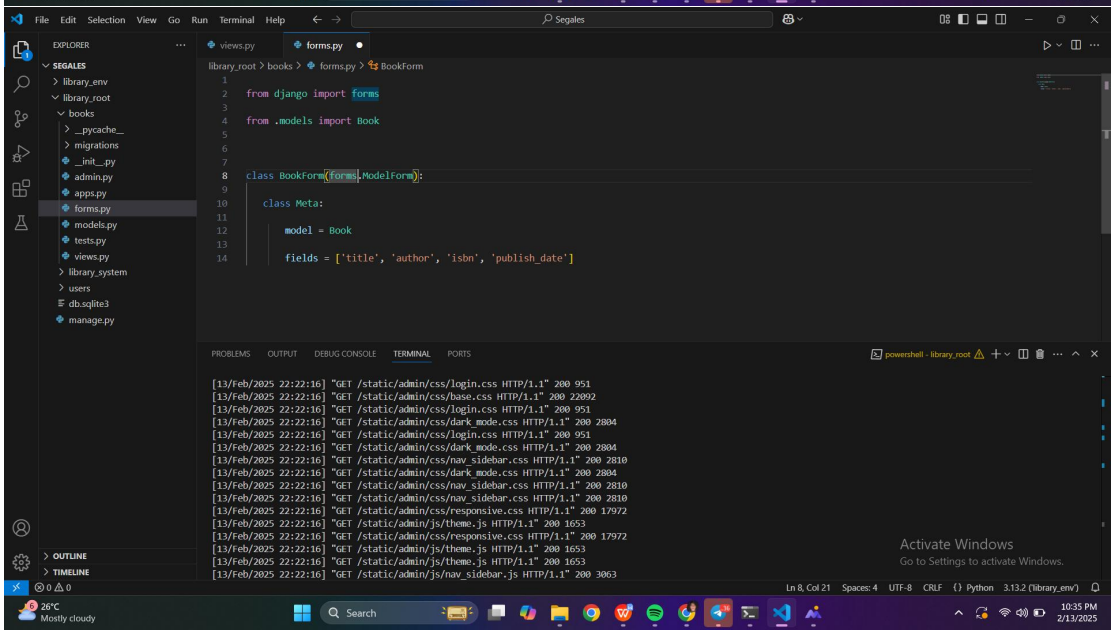
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forms.py
library_root > books > forms.py > BookForm
from django import forms
from .models import Book
class BookForm(forms.ModelForm):
class Meta:
model = Book
fields = ['title', 'author', 'isbn', 'publish_date']
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
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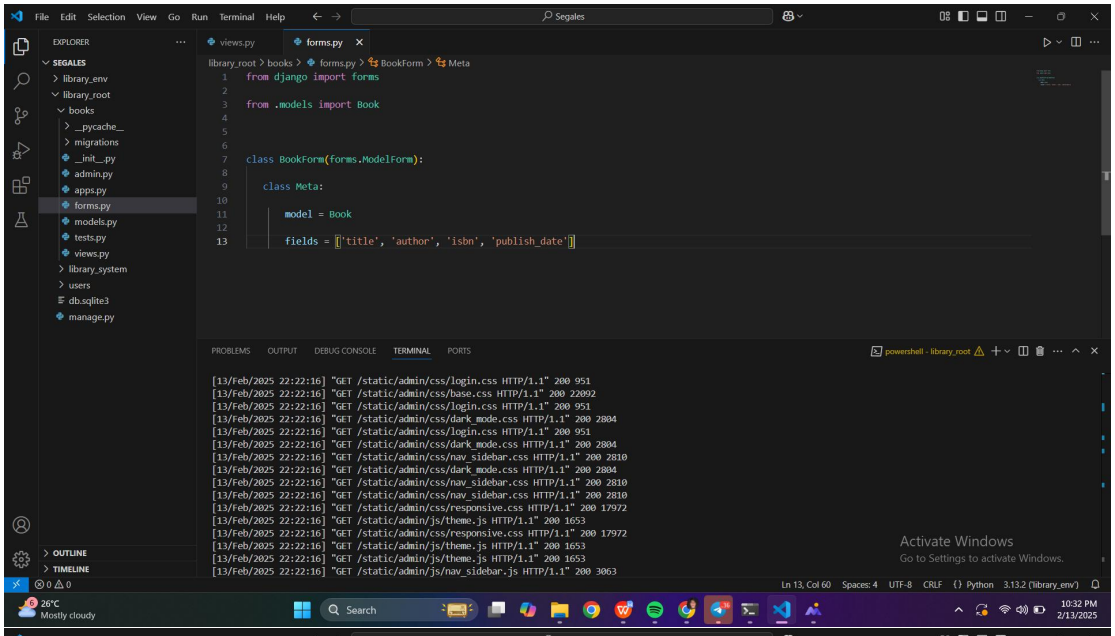
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forms.py
library_root > books > forms.py > BookForm > Meta
1 from django import forms
3 from .models import Book
7 class BookForm(forms.ModelForm):
9 class Meta:
11 model = Book
13 fields = ['title', 'author', 'isbn', 'publish_date']
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
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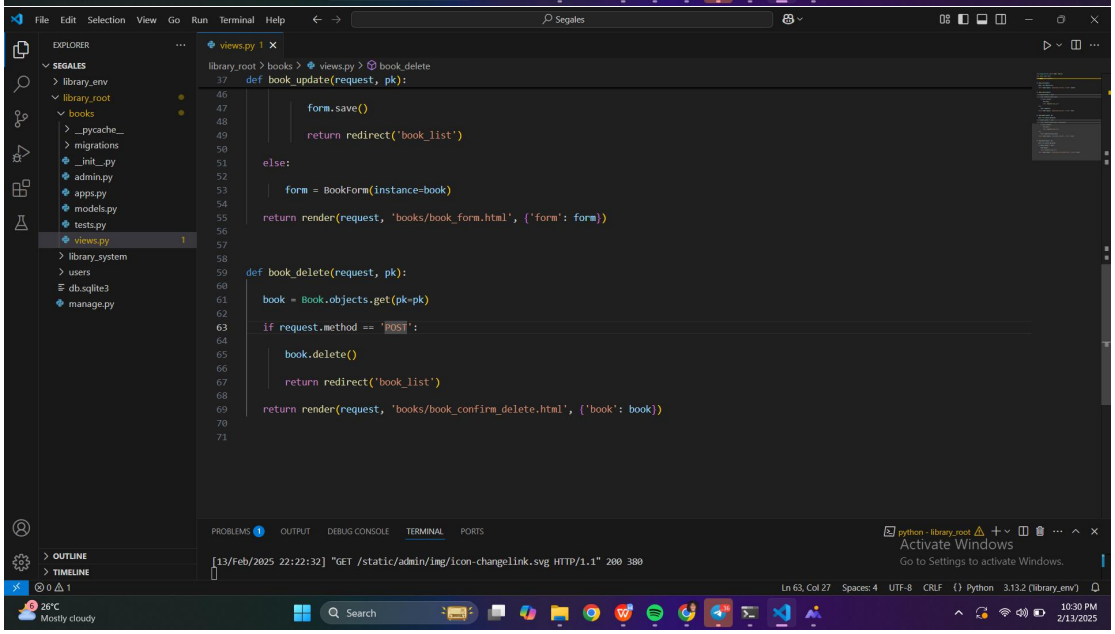
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library_root > books > views.py > book_delete
37 def book_update(request, pk):
47 form.save()
49 return redirect('book_list')
51 else:
53 form = BookForm(instance=book)
55 return render(request, 'books/book_form.html', {'form': form})
59 def book_delete(request, pk):
61 book = Book.objects.get(pk=pk)
63 if request.method == 'POST':
65 book.delete()
67 return redirect('book_list')
69 return render(request, 'books/book_confirm_delete.html', {'book': book})
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
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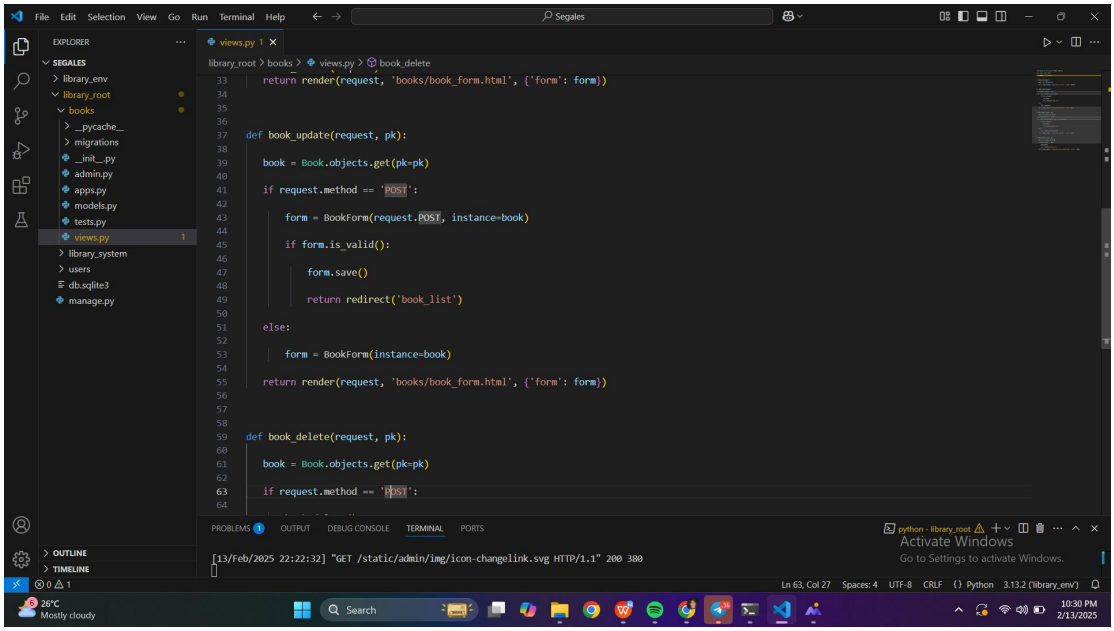
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views.py 1
library_root > books > views.py > book_delete
return render(request, 'books/book_form.html', {'form': form})
def book_update(request, pk):
book = Book.objects.get(pk=pk)
if request.method == 'POST':
form = BookForm(request.POST, instance=book)
if form.is_valid():
form.save()
return redirect('book_list')
else:
form = BookForm(instance=book)
return render(request, 'books/book_form.html', {'form': form})
def book_delete(request, pk):
book = Book.objects.get(pk=pk)
if request.method == 'POST':
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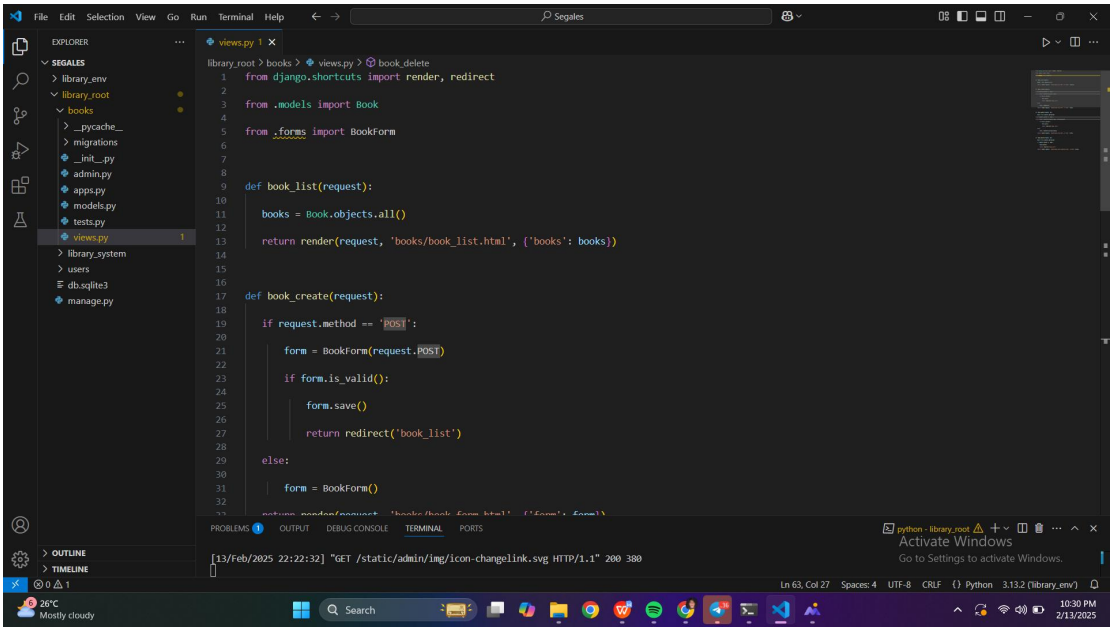
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manage.py
views.py 1
library_root > books > views.py > book_delete
from django.shortcuts import render, redirect
from .models import Book
from .forms import BookForm
def book_list(request):
books = Book.objects.all()
return render(request, 'books/book_list.html', {'books': books})
def book_create(request):
if request.method == 'POST':
form = BookForm(request.POST)
if form.is_valid():
form.save()
return redirect('book_list')
else:
form = BookForm()
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
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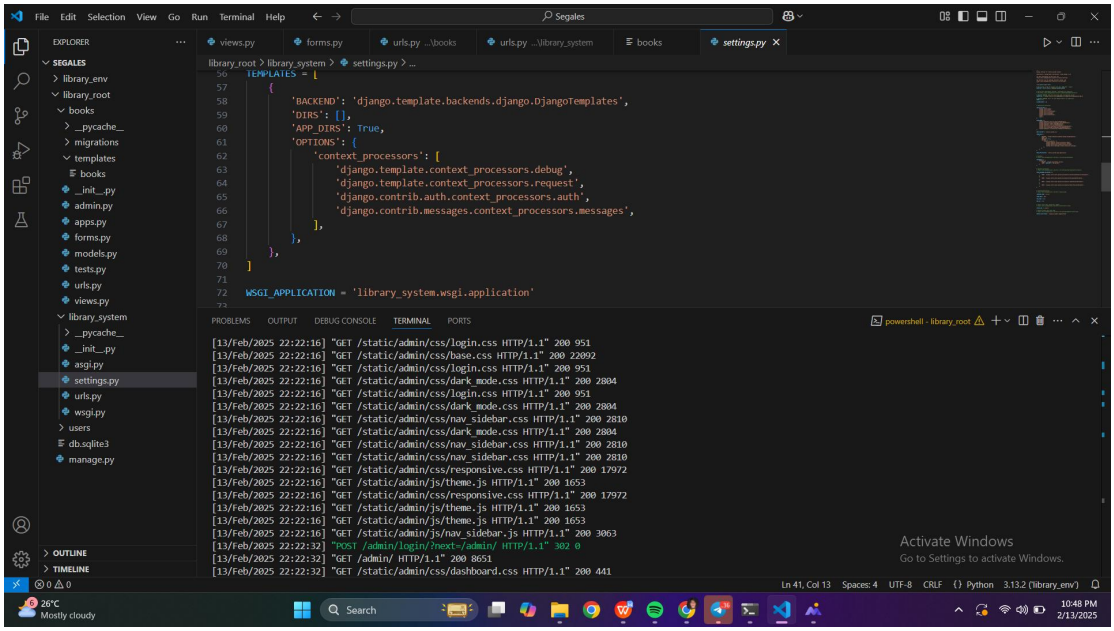

Follow-Up Questions:

1. How do Django forms work with models for CRUD operations?

Django forms work with models for CRUD operations by using ModelForm to automatically generate forms based on model attributes, allowing for easy creation of new records, reading and displaying existing data, updating records through validated form submissions, and deleting instances from the database, thereby streamlining the data handling process.

2. What is the role of the `redirect()` function in Django views?

The redirect() function in Django views is essential for managing URL redirections by generating an HTTP response that directs users from one URL to another, either by specifying a destination URL directly or using the name of a view function, while also allowing for the inclusion of parameters to ensure correct navigation and enhance user experience.

Findings

Implementing CRUD operations for books and users in a library management system involves creating a structured approach to manage the data related to both entities. For books, CRUD operations include creating new book entries, reading and displaying book details, updating book information, and deleting books from the system. Similarly, for users, these operations encompass adding new users, retrieving user information, modifying user details, and removing users from the database. Utilizing Django's ModelForm and views streamlines these processes, ensuring efficient data handling and user interaction.

Summary

In summary, the implementation of CRUD operations for books and users in a library management system is essential for maintaining an organized and functional database. By leveraging Django's framework features, such as models and forms, developers can create a seamless experience for managing library resources and user accounts. This structured approach not only simplifies data management but also enhances the overall usability of the system.

Conclusion

In conclusion, effectively implementing CRUD operations for books and users in a library management system is crucial for ensuring the system's efficiency and user satisfaction. By utilizing Django's capabilities, developers can create a robust application that allows for easy management of library resources and user data. This not only improves operational workflows but also provides a better experience for both librarians and users, ultimately contributing to the success of the library management system.