

CMPSC 312
Database Systems
Fall 2020

Lab 6 Assignment: A Django Film App

Submit deliverables through your assignment GitHub repository.

Place the project in `src/projectFiles/` and the report in the `writing/` directories



Objectives

To learn how to build a Django web server project for film data. Your web server will host information about your favourite picks of Hollywood-type films. This data be inserted by Python code that uses the `python manage.py shell` utility and the database will be viewed using Django's Admin login, however, you could add extra programming to allow any user to view the database. See Django's website for tutorials to help you write this code.

GitHub Starter Link

<https://classroom.github.com/a/RFFKaiPC>

To use this link, please follow the steps below.

- Click on the link and accept the assignment
- Once the importing task has completed, click on the created assignment link which will take you to your newly created GitHub repository for this lab,
- Clone this repository (bearing your name) and work locally
- As you are working on your lab, you are to commit and push regularly. The commands are the following.

```
- git add -A
- git commit -m 'Your notes about commit here'
- git push
```

Introduction

Recently, we have been using Python to interact with SQL code and databases. For this work, we built a *Django* (<https://www.djangoproject.com/>) web server project which was configured to use a SQLite3 database. The schema of the database from class was designed to keep track of music-related data at the album and song levels of music. To create our music database in our Django project, configured important Python files and migrated our database's tables. After creating our tables, we used a Python Interactive Shell to add album and song data to our database. All the steps that we used to complete the Django project may be found in the course slides.

We then used the Admin login feature of our web server project to access the fields of our database to view the data that they contained. In this lab, you will be mixing Python and SQL code and databases again. This time, the Django project will concern a film database in which you can keep information concerning information from Hollywood-style films (i.e., actors, titles, director and genre) of your choice. You will use Django to handle the database for you and you will access your database using the Admin feature. As an extra challenge, you could add extra programming to allow any user to view the database. See Django's website for tutorials to help you write this code.

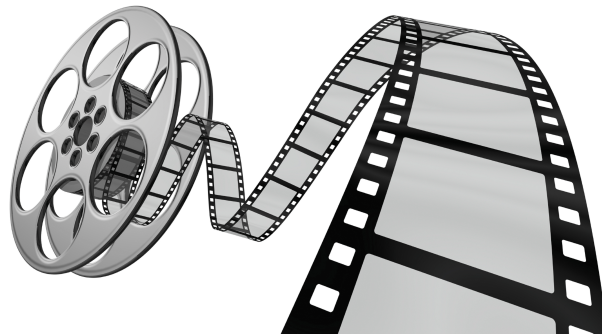


Figure 1: We are building an app in Django to contain information that is related to Films. For this, the schema will have to be programmed in Python to build the web server's database.

Design

Your Django web server app is to contain a catalogue of information about Hollywood-type films in the same way we were able to create an app to contain a catalogue of music. Below are some of the design-related aspects of your project.

1. **A film project:** You are to follow the tutorial in the class slides to create your project. Be sure to create a **film** app, not a **music** app.
2. **Schema:** The film project's database will have the following main attributes, although you can add more attributes, if you choose.
 - The main class will be called, *album*.
 - **mainActor**, to contain the name of a leading actor of the film

- `filmTitle`, to contain the film's title
- `director`, to contain the name of the director
- `genre`, to contain the type of film (i.e., drama, comedy, horror, etc).

Note: these attributes may be set and edited in the configuration file, `film/models.py`.

3. **Populating:** You are to write code to add the film data as done in class using the **Python interactive shell**. By copying your python interactive shell code and then pasting into the shell, the instructor will be able to recreate the operation to populate the database. Please see slides "Inserting Data" from the slides of "08-week_django_advanced" directory for an example of this code to insert data into a database using the Python Interactive Shell.
4. **Admin mode:** The user for this project will likely be the *admin* who will be viewing the database, although, as an extra challenge, you could add code to enable any user to view the database. Please see Django's website for tutorials to write the necessary code to make this possible. When you submit your project, please leave your admin password as *pass1234* (as outlined in the class slides), so that the instructor is able to log into your project as the admin.

Class slides

Please return to your notes, slides and code from class to help you with this project (i.e., building the Django project and then adding the data using the `python manage.py shell` command. The end deliverable of this project will be a working Django web server and database system to display Hollywood-type film information in a browser. The code must run without errors for full credit for this lab.

Summary of the Required Deliverables

This assignment invites you to submit an electronic version of the following deliverables through your group GitHub assignment repository. Do not forget to add your names to your work.

There are three deliverables for this project, listed below.

1. **File: `writing/report.md`:** Update the given Markdown file `writing/report.md` to include convincing evidence that your film database for Django works by including screenshots of the records of the running app in the browser-view of your film database. Please respond to the questions in the report concerning any challenges you met during the development of your project (coding, database support, etc) and how you resolved them. In your report, you are also to add the code that you copied and pasted into a Python Interactive Shell to populate the database with film information.
2. **Directory: `src/projectFiles/`:** You are to add the entire working directory of your project in this directory of your submission repository. The name of the project directory from class was `mysite/`. Note: The instructor will be paying special attention to your `film/models.py` file to study the schema of the film database.
3. **At least five films:** You are to populate your database with the details of at least five (5) films. Your insertion code will be five blocks of copy and pasted code to populate your database.

Due: 18th Nov, by 3:00 pm

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Please see the instructor or Technical Leader if you have any questions about this assignment.