Movies API — Professional Documentation

EXECUTIVE SUMMARY

Movies_API is a Django REST Framework (DRF) project that synchronizes Star Wars film data from SWAPI and enables users to post comments on each film. It provides a robust REST API suitable for client and backend integrations, complete with Swagger UI, CORS support, and production-ready configuration.

SYSTEM OVERVIEW

Technologies:

- Django & Django REST Framework

- drf_yasg (Swagger UI)

- MySQL (production) / SQLite (development)

- PythonAnywhere deployment

- Modular films app

Key Features

- Automatic film synchronization from SWAPI

- Nested comment endpoints for each film

- CRUD operations for comments

- Swagger documentation (/api/docs/)

- CORS & CSRF protection

- Secure configuration via .env

- Local caching of SWAPI data

DATA MODELS

Film:

- id (SWAPI ID)

- title

- release_date

- ordered by release_date, id

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Comment:

- film (ForeignKey)

- text (max 500 chars)

- ip_address

- created_at (auto)

- ordered by created_at, id

Serializers

- FilmSerializer: read-only with comment_count

- FilmDetailSerializer: nested comments

- CommentSerializer: validates max length

API Endpoints

GET /api/films/ — list films

GET /api/films/{id}/ — film detail

GET /api/films/{id}/comments/ — list comments

POST /api/films/{id}/comments/ — create comment

GET /api/comments/ — list comments

POST /api/comments/ — create comment

DELETE /api/comments/{id}/ — delete comment

GET /api/docs/ — Swagger UI

SERVICES

fetch_and_sync_films():

- syncs films with SWAPI

- upserts into DB

- deletes missing entries

- logs operations

- atomic transaction

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SETUP INSTRUCTIONS

1. Clone repository

2. Create & activate virtual environment

3. Install dependencies

4. Create .env file

5. Run migrations

6. Start development server

7. Access Swagger UI

.env Template

DEBUG=True

DJANGO_SECRET_KEY=your-secret-key

SWAPI_BASE_URL=https://swapi.dev/api

MYSQL_DATABASE=Coded$default

MYSQL_USER=Coded

MYSQL_PASSWORD=yourpassword

MYSQL_HOST=Coded.mysql.pythonanywhere-services.com

MYSQL_PORT=3306

SECURE_SSL_REDIRECT=True

GitHub Secrets

DJANGO_SECRET_KEY

MYSQL_DATABASE

MYSQL_USER

MYSQL_PASSWORD

MYSQL_HOST

SWAPI_BASE_URL

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DEBUG

Deployment (PythonAnywhere)

1. Create web app

2. Clone repo

3. Create virtualenv

4. Install dependencies

5. Run migrations

6. Collect static files

7. Set WSGI path

8. Configure environment variables

9. Reload app

Additional Notes

- SWAPI is source of truth

- Local DB used for caching & counting

- Error handling: 400, 404, 502 upstream errors

- Supports caching and default router

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