Movie Reservation System - User and Admin Manual

# 1. Introduction

The Movie Reservation System is an application that allows users to browse movies, cinemas, and schedules, as well as book or purchase tickets.

The system has three roles:  
- Guest (Non-logged-in users): Can only view and filter movies, cinemas, and schedules.  
- User (Logged-in regular users): Can book or purchase tickets.  
- Admin (Logged-in administrators): Has full access to manage users, cinemas, movies, schedules, and bookings.  
  
This manual provides instructions for using the system based on the user's role.

# 2. Accessing the System

The application has the following entry points:  
- Web browser: Users can access the application through a web browser, either via a login form or basic authentication prompts.  
- API clients: For advanced users or developers, tools like Postman can be used to interact with the system via HTTP requests.

# 3. Guest (Non-Logged-In User) Guide

As a guest, you can only view or filter available cinemas, movies, and schedules. You cannot book or purchase tickets without logging in.

## 3.1 View Cinemas

URL: GET /api/cinemas  
Optional Filters: You can filter cinemas by:  
- GET /api/cinemas?name=CinemaName  
- GET /api/cinemas?address=CinemaAddress

## 3.2 View Movies

URL: GET /api/movies  
Optional Filters: You can filter movies by name or description:  
- GET /api/movies?name=MovieName  
- GET /api/movies?description=MovieDescription

## 3.3 View Schedules

URL: GET /api/schedules  
Optional Filters: You can filter schedules by:  
- startDate, endDate (filter by screening dates)  
- startPrice, endPrice (filter by ticket price)  
- Cinema name/address and movie name/description:  
GET /api/schedules?cinemaName=CinemaName&movieName=MovieName&startDate=2023-12-01&startPrice=10

## 3.4 Example Usage (Web Browser)

1. Open the browser.  
2. Navigate to the /api/cinemas, /api/movies, or /api/schedules endpoints.  
3. You will see a JSON list of available options with filtering features.

# 4. User (Logged-In Regular User) Guide

As a regular user, you can browse cinemas, movies, and schedules, just like a guest. Additionally, you can book or purchase tickets.

## 4.1 Logging In

To access booking features, you must log in with your credentials:  
- Username: Provided by the admin.  
- Password: Provided by the admin.  
You can log in either using the web form or through basic authentication.

## 4.2 Book Tickets

URL: POST /api/book  
Required Parameters:  
- scheduleId (the ID of the schedule you want to book).  
- seatsCount (number of tickets).  
Example:  
POST /api/book?scheduleId=1&seatsCount=2

## 4.3 View Occupied Seats

URL: GET /api/occupied-seats  
Example:  
GET /api/occupied-seats

## 4.4 Confirming Purchase

URL: POST /api/bookings/confirm  
Required Parameter: occupiedSeatId (ID of the seat you reserved).  
Example:  
POST /api/bookings/confirm?occupiedSeatId=10

## 4.5 Booking Restrictions

- Time Restriction: You cannot book tickets within 30 minutes of the movie's start time.  
- Seat Availability: You can only book tickets if seats are available for the schedule.

# 5. Admin (Administrator) Guide

As an admin, you have full control over the system. You can manage users, cinemas, movies, schedules, and bookings.

## 5.1 Admin Capabilities Overview

Admins can:  
- Create, update, delete, and view users.  
- Add, update, delete, and view cinemas.  
- Manage movies, including adding new movies, updating movie information, and deleting movies.  
- Create, update, delete, and view schedules for movies in cinemas.  
- View all occupied seats and manage reservations.

## 5.2 Manage Users

Create User: POST /api/users  
Body: JSON payload with user information (username, password, role).  
Example:  
{  
 "username": "newuser",  
 "password": "password123",  
 "role": "ROLE\_USER"  
}  
  
Update User: PUT /api/users/{id}  
Delete User: DELETE /api/users/{id}  
View All Users: GET /api/users

## 5.3 Manage Cinemas

Create Cinema: POST /api/cinemas  
Update Cinema: PUT /api/cinemas/{id}  
Delete Cinema: DELETE /api/cinemas/{id}  
View All Cinemas: GET /api/cinemas

## 5.4 Manage Movies

Create Movie: POST /api/movies  
Update Movie: PUT /api/movies/{id}  
Delete Movie: DELETE /api/movies/{id}  
View All Movies: GET /api/movies

## 5.5 Manage Schedules

Create Schedule: POST /api/schedules  
Update Schedule: PUT /api/schedules/{id}  
Delete Schedule: DELETE /api/schedules/{id}  
View All Schedules: GET /api/schedules

# 6. Reservation Cancellation (Automated)

Reservations that have not been confirmed within 30 minutes of the movie start time are automatically canceled by the system. This is done via a scheduled task that runs every minute and checks for expired reservations.

# 7. Error Handling

If there is an issue with a request (e.g., booking tickets when there are no available seats), the system will return appropriate error messages such as "Not enough remaining seats available." Ensure that all required fields are provided when creating or updating entities, as missing fields will result in validation errors.

# 8. Conclusion

This manual covers all the necessary operations for both users and admins in the Movie Reservation System. Each role has specific responsibilities, and this guide explains how to interact with the system to perform tasks such as booking tickets or managing movies, schedules, and users.