

# FlixTiqs

Technical Design Document

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## **Amendment History**

Version	Date	Comment	By	Approved
1	04/21/2015	Initial Draft	Sonam Pahariya	
2	05/05/2015	Added DB Schema	Sonam	
3	06/09/2015	Final Doc	Sonam	

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## **1 OBJECTIVE**

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FlixTiqs is movie ticket booking website where user can find all the movies currently playing in the nearby theaters. User can search the available theatres in particular location or in the range of area and the list of movies playing in that theater. User is allowed to purchase the tickets. This site will provide the news of upcoming movies.

FlixTiqs is the interactive and easy access site for users, finding and getting tickets for movies will be much easier for them. FlixTiqs allows theater to create their account to update the movies which they are currently playing and how many seats they are offering to book. They can customize the ticket price for individual movies.

## **2 AUDIENCE**

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FlixTiqs targets multiple group of audience. We can divide the audience in below group-

- Admin – This group will manage all the features of site as upcoming movie and payment related task.
- Theater – This group will be allowed to update the playing list of movies. They can also update the available seats for the particular movie and ticket prizes.
- Buyer – This group is the main public to use the site. They will be provided many features related to searching movies and theaters. They can purchase any no of available tickets.

## **3 FEATURES AND SCOPE**

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FlixTiqs has the main functionality to allow users to book tickets. Below are the features and their scope offered by this site –

**3.1 THEATER BROWSING** - User can find the theaters based on city + state or zip code. User can browse a theater and can see the list of playing movies and their show timing to book ticket. Below is the scope of this feature-

- i. Browse all theaters based on city + state or zip code
- ii. Browse all playing movies in selected theater

- iii. Filter theater by name
- iv. Browse all theater playing particular movie
- v. Display the show timing for each movie

**3.2 MOVIE BROWSING** - User can search the movies by the name. By default site will show the currently playing movie and upcoming movies in different tabs. User can select any movie to see the detail about the movie and rating. User is allowed to sort the list by alphabetically and by released date. Below is the scope of this feature-

- i. Browse all movies in the system
- ii. Browse all movies currently playing
- iii. Browse all upcoming movies
- iv. Browse all movies released after particular date
- v. Filter movie by its name
- vi. Sort movies in alphabetical order
- vii. Sort movies by released date
- viii. Select movie to see its details and rating

**3.3 ADMIN FUNCTION** — Admin can update the site with the upcoming movies and news related to movies. Admin can update the ratings of movies. Admin has right to update the theater list also. Below is the scope of this feature-

- i. Update the details about movie.
- ii. Update the upcoming movie list.
- iii. Update the theater list connected to the site.

**3.4 THEATER FUNCTION** — Theater is the one of group type who are allowed to create their account after verification by admin. They can update the playing movie list and their show timings in the theater. They are also allowed to provide the no of seat to be booked and ticket process for individual movie. Below is the scope of this feature-

- i. Add/update/delete the movie in playing list.
- ii. Add/update/delete the show timings for each movie
- iii. Add/update per ticket price.
- iv. Add/update the available seats to book.

**3.5 PAYMENT** — After selecting the movie and its show timing the user will be required to pay for tickets. User can see the available no of tickets and they can enter any no of tickets less than available tickets and buy them. Below is the scope of this feature-

- i. User can buy any no of ticket less than available tickets.

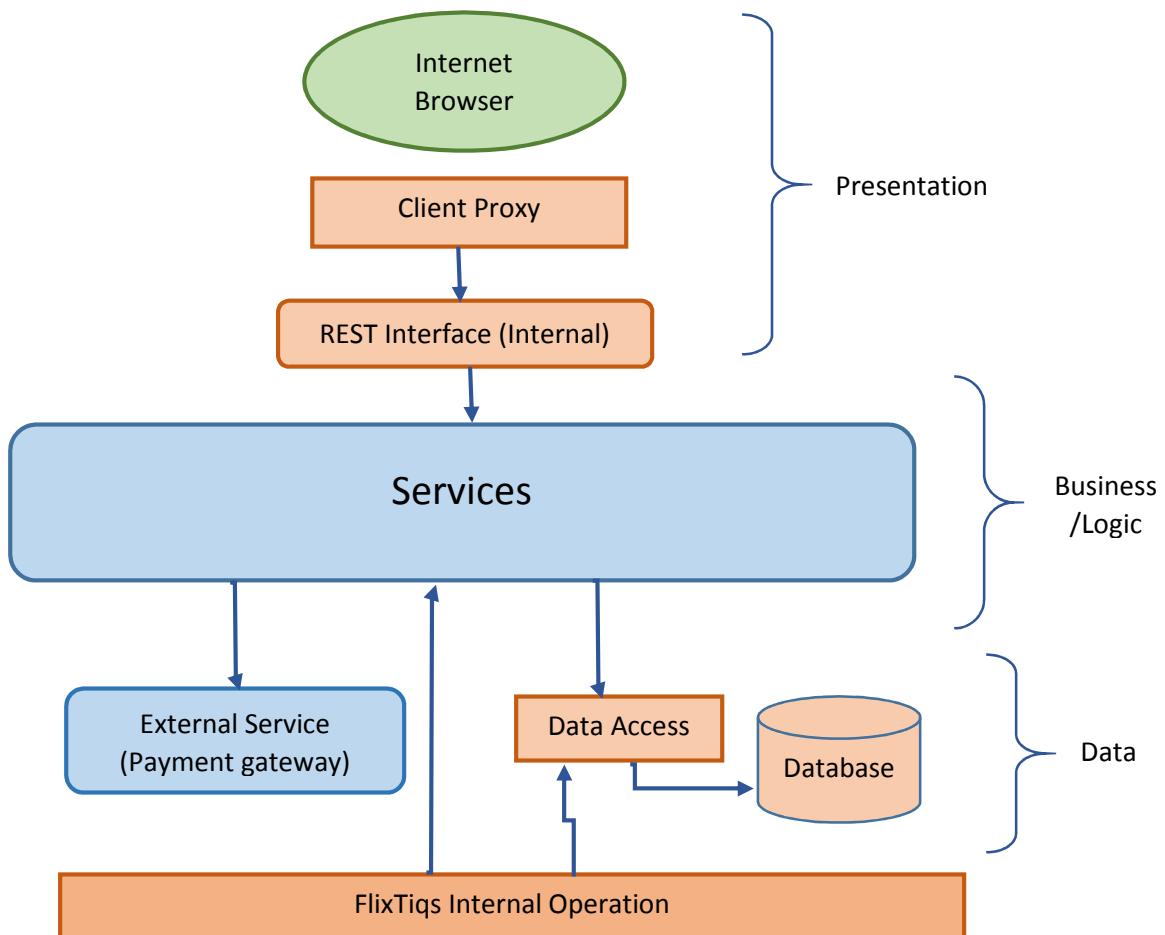
- ii. Payment service will verify the payment information. Based on that, site will accept or deny the payment.
- iii. User will see the message of successfully buying the ticket.

## 4 DESIGN

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### 4.1 HIGH LEVEL DESIGN

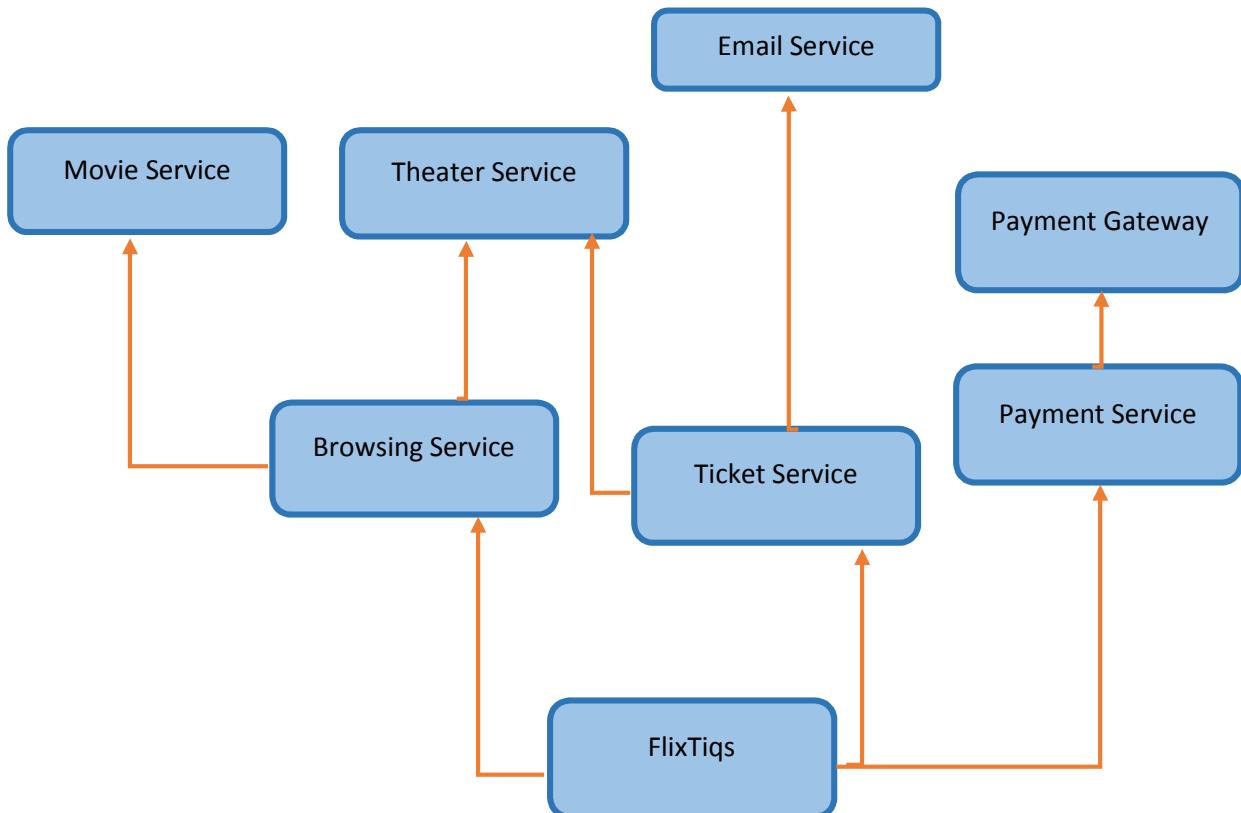
High level design shows the architecture of the application. It shows three main tier of the application i.e. Presentation, Business logic and data layer. The browser will communicate with the application using client proxy which communicate with REST interface to send request to and get response from application services.



## 4.2 SERVICE ORIENTED ARCHITECTURE

SOA helps to identify independent component in the design which could be developed independently and reduce the complexity of the system. The services in above diagram could be divided in multiple services. Below are the services which could be identified as independent components.

- i. **Movie Service** - Movie service is to give information related to movies in movie search.
- ii. **Theater Service** – This service will gather the data from every theater who want to use FlixTiqs to book the tickets. This service will collect the playing movie list, show timing, ticket price and available seats from all the theater. It means that theater user can login to the system and update the movie data.
- iii. **Browsing Service** - This service consume theater service. It takes the movie name / location as filter input and return the list of movies / theater as output.
- iv. **Payment Service** - This service handles the ticket payment and exchange the message with payment gateway to validate the payment information.
- v. **Payment Gateway** – It is the external service and third party authentication service to validate the user payment information.
- vi. **Ticket Service** - This service will generate the tickets if the payment is successful. If user returns the ticket, it will update the system.
- vii. **Email Service** – After booking ticket, email service sends the email with ticket receipt. Email service sends the email after user creates their account.

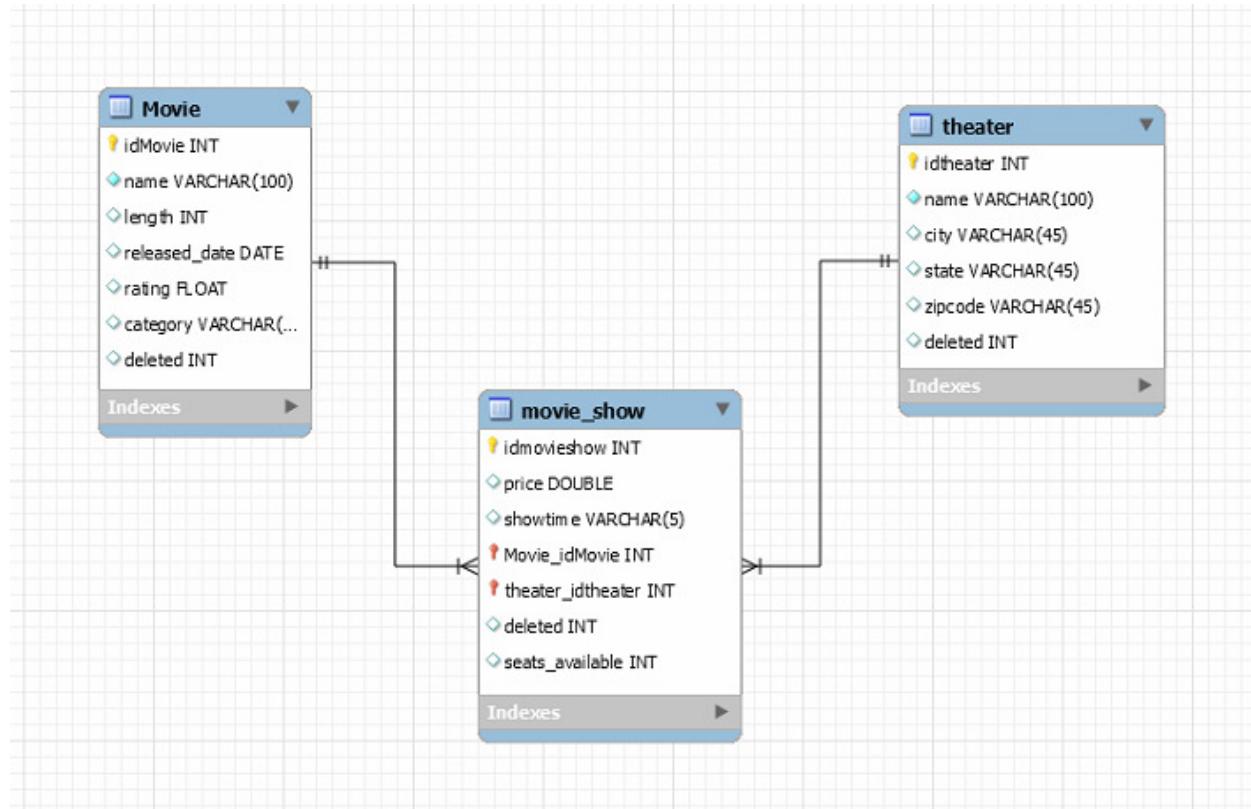


## 5 DATABASE SHEMA

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For the main functionality, the database has three main tables – Movie, Theater and Movie\_Show. All three tables has the columns and types as specified in below schema. The schema has below relationships-

- **Movie – Movie\_Show** – Movie and Movie\_show has one to many relationship as one movie can have multiple shows in multiple theaters.
- **Theater – Movie\_Show** – Theater and Movie\_Show also has one to many relationship as one theater can play multiple shows of multiple movies.
- **Movie-Theater** – Movie and Theater do not have direct relationship but they have many to many relationship through Movie\_Show as one movie can be played in many shows in multiple theaters and one theater can play multiple movies.



## 6 TEST CASES

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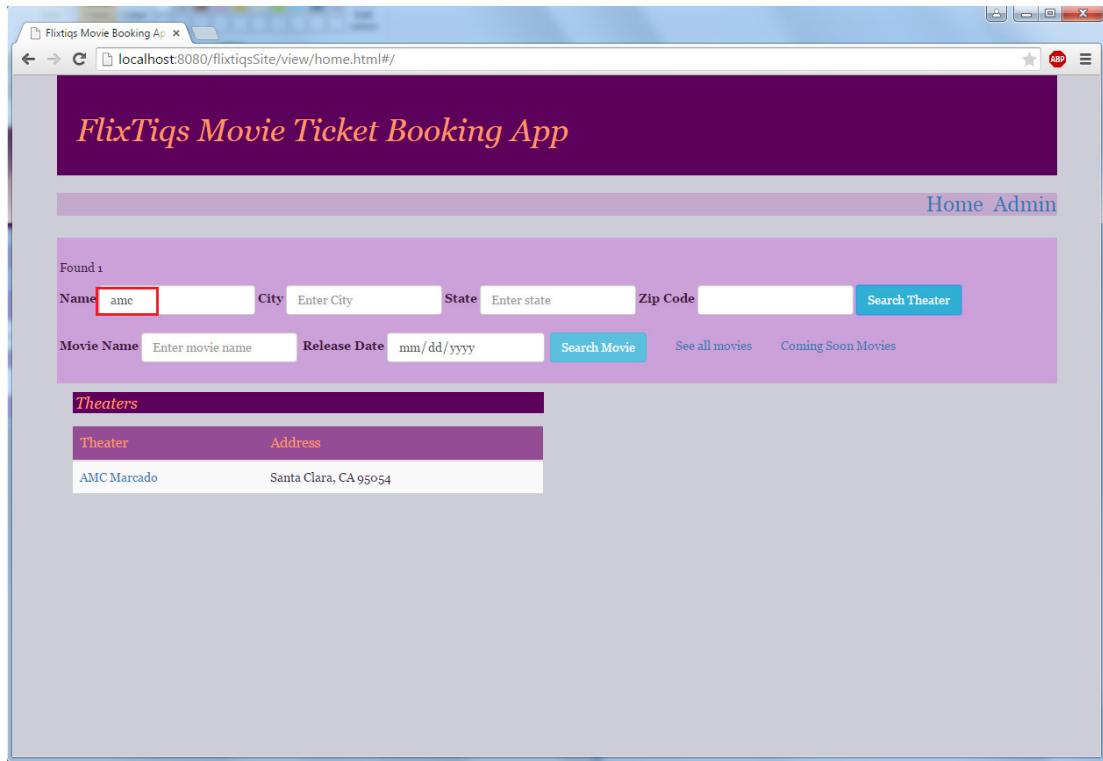
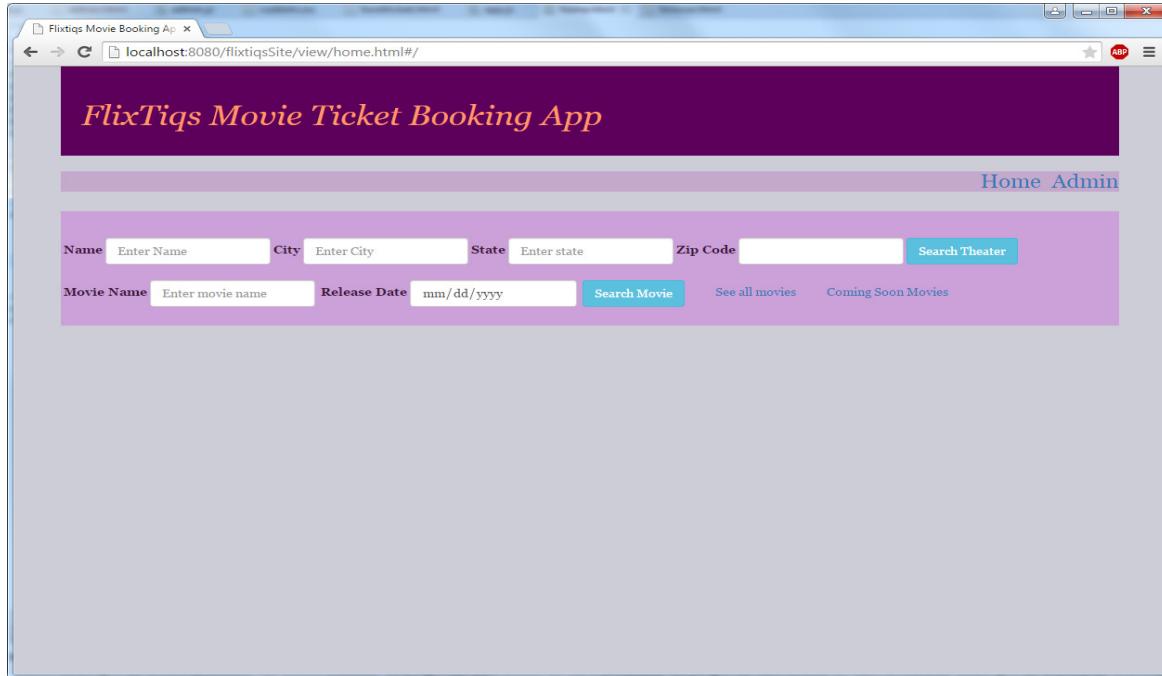
The functionality of the FlixTiqs is divided into the services so the test cases are written based on service functionality.

<b>Id</b>	<b>Unit to test</b>	<b>Test data</b>	<b>Step to be executed</b>	<b>Assumption</b>	<b>Expected Result</b>
1	Movie service	Add/update movie detail	Add/change movie information	Field validation is true.	Movie information as name, released date, rating etc will be added/updated.
2	Theater service	Add/update theater information	Add/change the theater information	Field validation is true.	Theater information as location, name will be added/updated.
3		Add movie shows details	Add/update playing movie show and its detail	Field validation is true.	Add/update the movies detail as name, ticket price, no of seats.
4	Browsing service	Movie name	Enter movie name	Movie exist in the database	User can see the searched movie in result.
5		Released date	Enter a date	Movie exist in the database released after that date	User can see a list of movies released after the entered date.
6				Movie does not exist in the database.	User will see message "No such movies found."
7		Theater Name	Enter theater name	Theater exist in data base	User can see the searched theater on screen.
8				Theater does not exist in database	User will see message "No such theater found."

9		City+state	Enter any city and it's state abbreviation	City exist in database	User can see the list of theater exist in that city.
10				City does not exist in database	User will see message "No theater found in the searched city."
11		Zipcode	Enter zipcode	Zipcode exist in the database	User can see the list of theater exist in that place.
12				Zipcode does not exist in the database	User will see message "No theater found in the searched place."
13	Book Ticket	Movie Detail	Click on any theater from the result of theater search.	Theater playing some movies.	User will see the list of movies playing in selected theater with show timing.
14			Click on any movie in the list	Movie details exist in database.	User will see movie information as name, length, cast, rating etc.
15			Click on any show time to book ticket.	Show time is the future time.	User will be allowed to book the ticket.
16			Enter the no of ticket to book.	No. is less than available ticket.	User will see total calculated amount to pay.
17			Click on purchange ticket button.		User will see message of ticket booking.

## 7 SCREEN SHOTS

Below are the screen shots of Flixtiqs application.



FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/

FlixTiqs Movie Ticket Booking App

Home Admin

Found 58

Name	Enter Name	City	city	State	st	Zip Code	Search Theater
Movie Name	Enter movie name	Release Date	mm/dd/yyyy	Search Movie	See all movies	Coming Soon Movies	

**Theaters**

Theater	Address
Theater_102	City_15, ST_159 81670
Theater_103	City_147, ST_140 88326
Theater_106	City_108, ST_10 82854
Theater_107	City_85, ST_138 85856
Theater_11	City_115, ST_193 85086
Theater_12	City_32, ST_103 89834
Theater_120	City_130, ST_64 87983
Theater_129	City_184, ST_153 88998
Theater_13	City_6, ST_9 85687

FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/

FlixTiqs Movie Ticket Booking App

Home Admin

Found 1

Name	Enter Name	City	Enter City	State	Enter state	Zip Code	81670	Search Theater
Movie Name	Enter movie name	Release Date	mm/dd/yyyy	Search Movie	See all movies	Coming Soon Movies		

**Theaters**

Theater	Address
Theater_102	City_15, ST_159 81670

FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/

FlixTiqs Movie Ticket Booking App

Home Admin

Found 41

Name  City  State  Zip Code  Search Theater

Movie Name  Release Date  Search Movie See all movies Coming Soon Movies

**Now Playing:**

Name	Category	Released Date	Run Time	Rating
Test106		2015-05-12	150 Minuts	*3.5
Test107		2015-05-12	150 Minuts	*3.5
Test11		2015-05-12	150 Minuts	*3.5
Test13		2015-05-22	140 Minuts	*4
Test148		2015-05-22	140 Minuts	*4
Test16		2015-05-10	130 Minuts	*3
Test17		2015-05-10	130 Minuts	*3
Test18		2015-05-10	130 Minuts	*3
Test182		2015-05-12	150 Minuts	*3.5

FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/

FlixTiqs Movie Ticket Booking App

Home Admin

Found 13

Name  City  State  Zip Code  Search Theater

Movie Name  Release Date  Search Movie See all movies Coming Soon Movies

**Now Playing:**

Name	Category	Released Date	Run Time	Rating
Aloft	Drama	2015-05-22	125 Minuts	*3.5
Aloha	Drama	2015-06-04	124 Minuts	*3.5
Entourage	Drama	2015-06-05	120 Minuts	*3.5
SPY	Thriller	2015-06-05	110 Minuts	*3.5
Tanu Weds Manu	Drama	2015-05-22	130 Minuts	*4
Test13		2015-05-22	140 Minuts	*4
Test148		2015-05-22	140 Minuts	*4
Test24		2015-05-22	140 Minuts	*4
Test34		2015-05-22	130 Minuts	*3

FlixTiqs Movie Ticket Booking App

Home Admin

Found 53

Name  Enter Name City  Enter City State  Enter state Zip Code  Search Theater

Movie Name  Enter movie name Release Date  mm/dd/yyyy Search Movie See all movies Coming Soon Movies

**Now Playing:**

Name	Category	Released Date	Run Time	Rating
Aloft	Drama	2015-05-22	125 Minuts	*3.5
Aloha	Drama	2015-06-04	124 Minuts	*3.5
Bombay Velvet	Suspence	2015-05-12	120 Minuts	*4.5
Entourage	Drama	2015-06-05	120 Minuts	*3.5
Furious 7	Adventure	2015-04-20	120 Minuts	*3.5
Mad Max		2015-05-10	120 Minuts	*4
Piku	Family	2015-05-01	140 Minuts	*4
SPY	Thriller	2015-06-05	110 Minuts	*3.5
Tanu Weds Manu	Drama	2015-05-22	130 Minuts	*4
Test106		2015-05-12	150 Minuts	*3.5
Test107		2015-05-12	150 Minuts	*3.5
Test111		2015-05-12	150 Minuts	*3.5
Test13		2015-05-22	140 Minuts	*4

FlixTiqs Movie Ticket Booking App

Home Admin

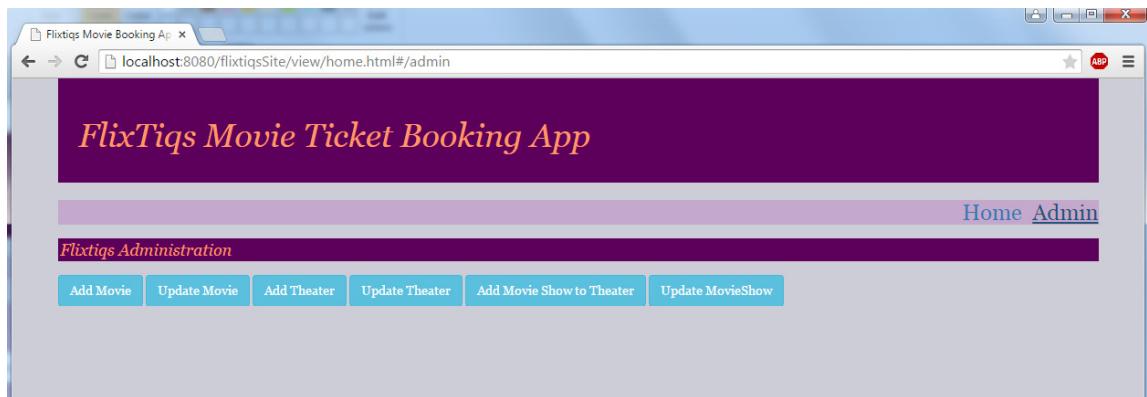
Found 53

Name  Enter Name City  Enter City State  Enter state Zip Code  Search Theater

Movie Name  Enter movie name Release Date  mm/dd/yyyy Search Movie See all movies Coming Soon Movies

**Coming Soon:**

Batman DoJ Category: Sci/Fi	Realeased Date : 2015-06-30, Movie run time : 140 Minuts
Test41 Category:	Realeased Date : 2015-07-10, Movie run time : 135 Minuts
Wazir Category:	Realeased Date : 2015-07-10, Movie run time : 140 Minuts



The screenshot shows the same web browser window after a new movie has been added. A success message "Created new movie with ID 80" is displayed in a red-bordered box. The "Add New Movie" form is visible, containing fields for "Movie Name" (Home), "Released Date" (06/01/2015), "Run Time" (140), "Rating" (4.0), and "Category" (Comedy). There is also a "Add Movie" button at the bottom of the form.

**Add New Movie**

**Movie Name**  
Home

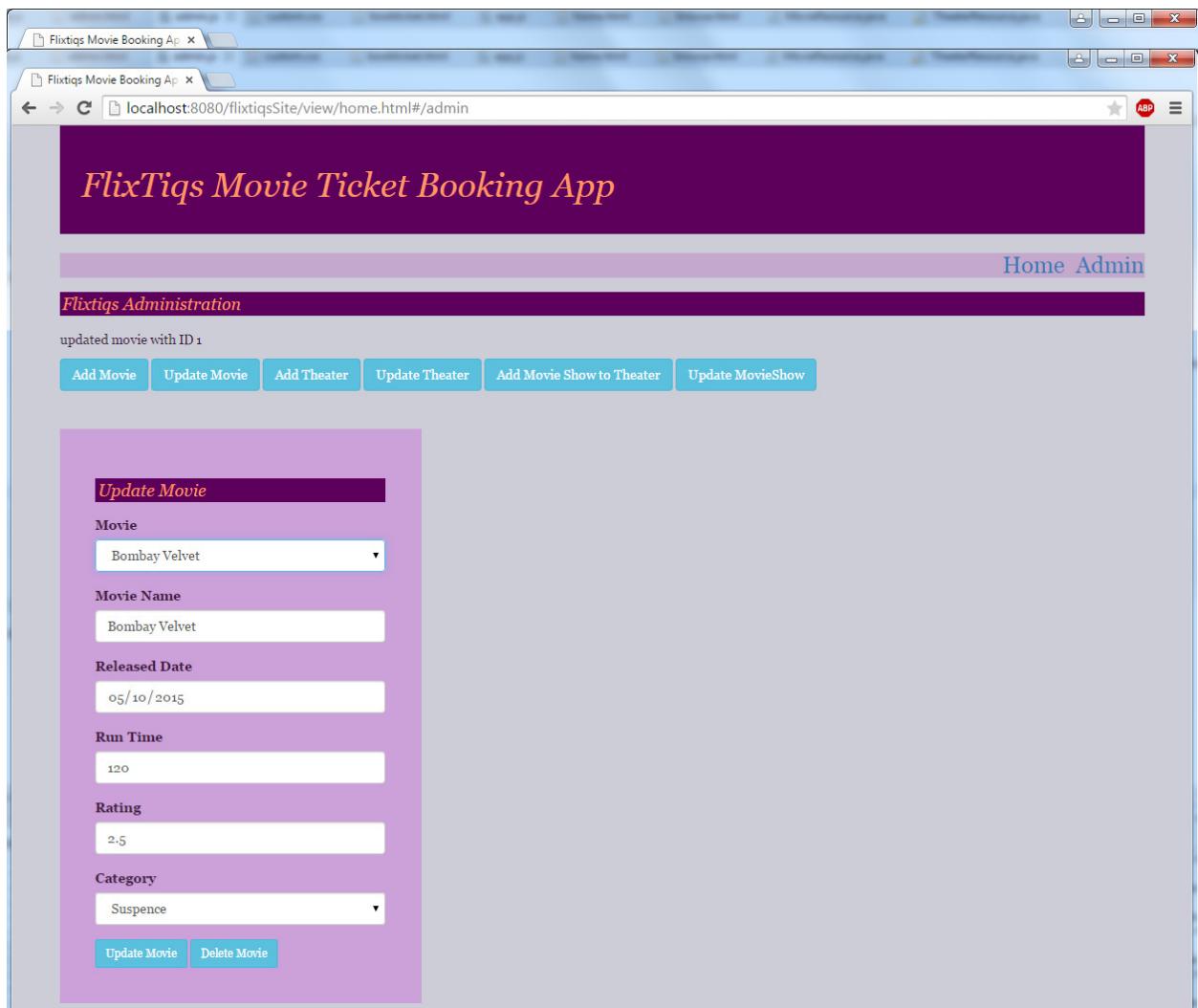
**Released Date**  
06/01/2015

**Run Time**  
140

**Rating**  
4.0

**Category**  
Comedy

**Add Movie**



FlixTiqs Movie Booking App

Home Admin

Flixtiqs Administration

Deleted movie with ID 15

Add Movie Update Movie Add Theater Update Theater Add Movie Show to Theater Update MovieShow

**Update Movie**

Movie  
Test49

Movie Name  
Test49

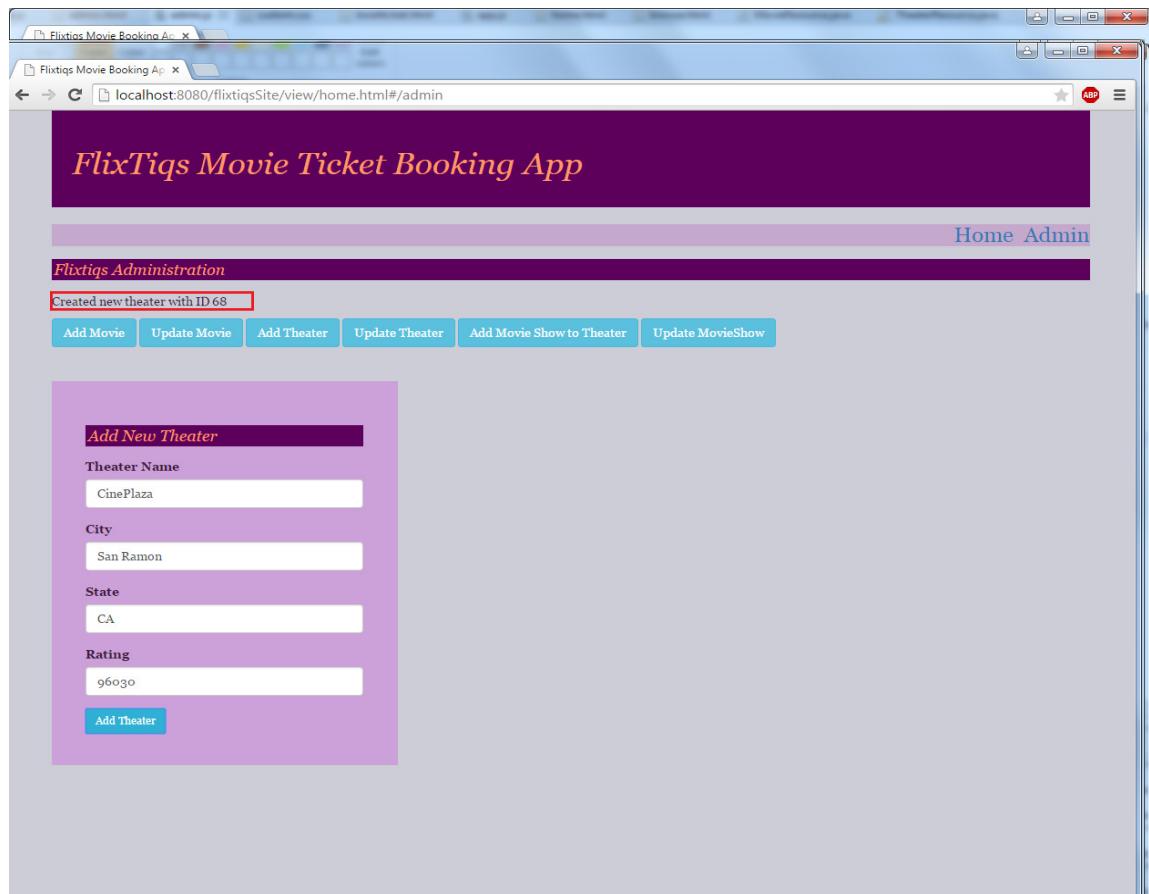
Released Date  
05/09/2015

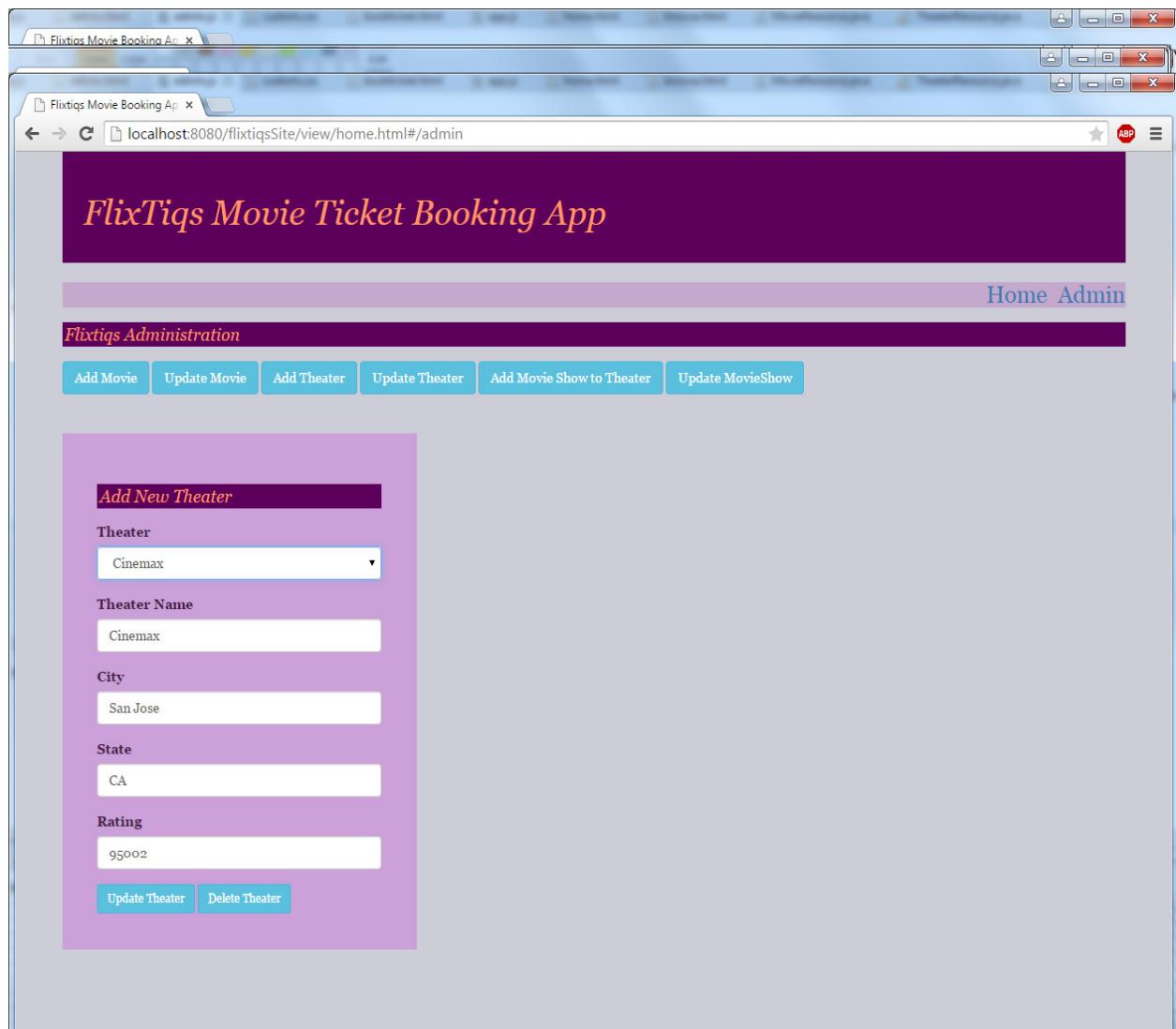
Run Time  
130

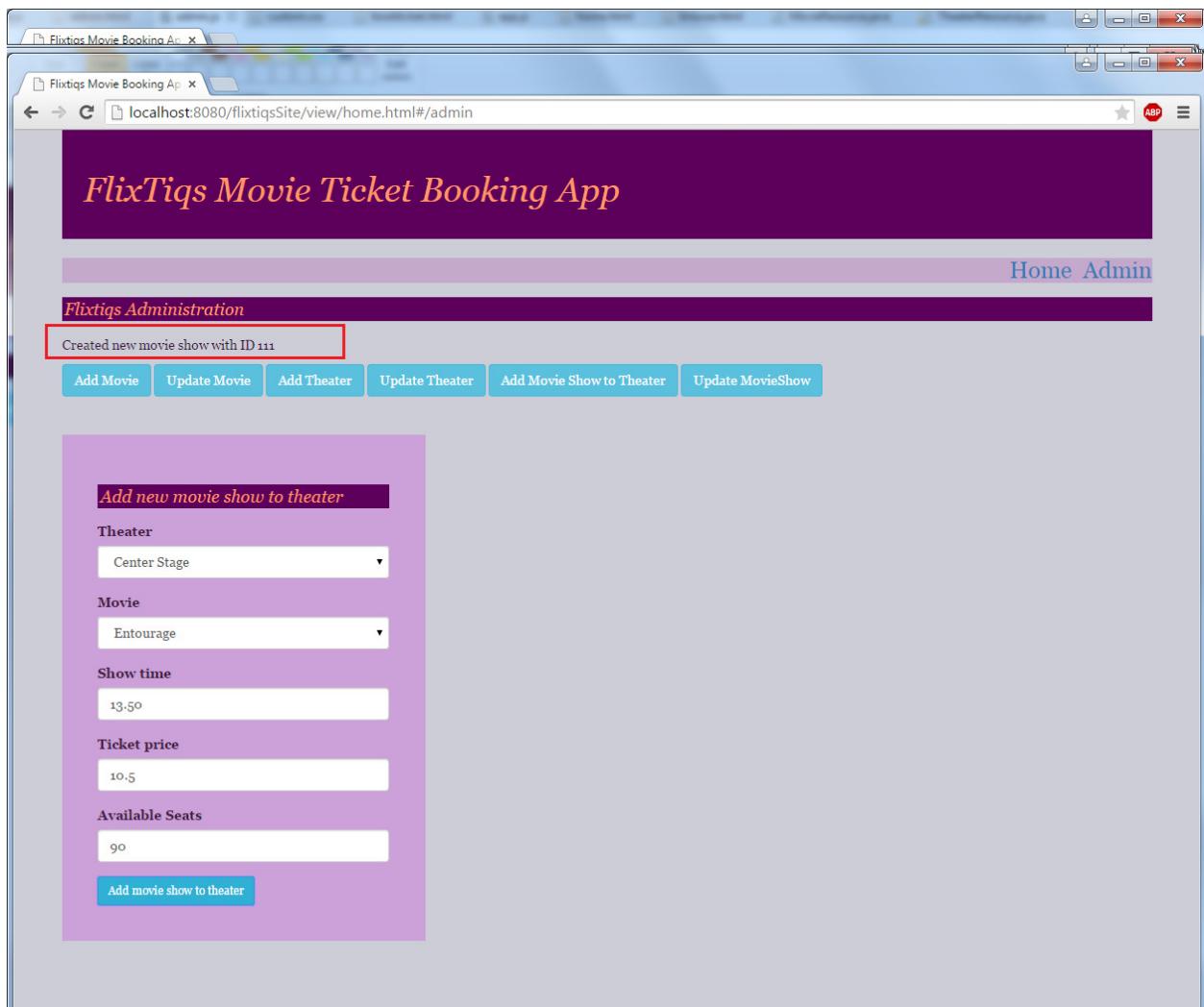
Rating  
3

Category  
Action

Update Movie Delete Movie







FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/admin

FlixTiqs Movie Ticket Booking App

Home Admin

FlixTiqs Administration

Found 2

Add Movie Update Movie Add Theater Update Theater Add Movie Show to Theater Update MovieShow

Update movie show to theater

Theater

AMC Marcado

Movie

Bombay Velvet

Get shows

Show Time	Price	Available Seats	
16:00	12.25	80	Edit Delete
17:30	14.5	55	Edit Delete

FlixTiqs Movie Ticket Booking App

Home Admin

Found 3

Name	Category	Released Date	Run Time	Rating
Aloft	Drama	2015-05-22	125 Minuts	*3.5
Aloha	Drama	2015-06-04	124 Minuts	*3.5
Bombay Velvet	Suspence	2015-05-10	120 Minuts	*2.5
Entourage	Drama	2015-06-05	120 Minuts	*3.5
Furious 7	Adventure	2015-04-20	120 Minuts	*3.5
Home	Comedy	2015-06-01	140 Minuts	*4
Mad Max		2015-05-10	120 Minuts	*4
Piku	Family	2015-05-01	140 Minuts	*4
SPY	Thriller	2015-06-05	110 Minuts	*3.5
Tanu Weds Manu	Drama	2015-05-22	130 Minuts	*4
Test106		2015-05-12	150 Minuts	*3.5
Test107		2015-05-12	150 Minuts	*3.5
Test108		2015-05-12	150 Minuts	*3.5

*Theaters playing movie: Aloft*

Theater	Address	Show Timing
Center Stage	San jose, CA 98056	15:50 11:20
AMC Marcado	Santa Clara, CA 95054	15:30
BMC	San francisco, CA 96061	19:30

FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/shows/97

Home Admin

Book Ticket for movie Aloft at 15.50

Available Tickets  
60

Ticket Price  
\$12.5

No. of Tickets  
4

Total Price  
\$50

Buy Tickets

FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/shows/97

Home Admin

Book Ticket for movie Aloft at 15.50

You have booked 4 ticket/s for Movie Aloft at show time 15.50

Available Tickets  
56

Ticket Price  
\$12.5

No. of Tickets  
4

Total Price  
\$50

Buy Tickets

FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/

## FlixTiqs Movie Ticket Booking App

Home Admin

Found 5

Name  Enter Name City  Enter City State  Enter state Zip Code  Search Theater

Movie Name  Enter movie name Release Date  mm/dd/yyyy Search Movie See all movies Coming Soon Movies

Theaters

Theater	Address
AMC Marcado	Santa Clara, CA 95054
BMC	San Francisco, CA 96061
Center Stage	San Jose, CA 98056
Cinemax	San Jose, CA 95002
CinePlaza	San Ramon, CA 96030
CSM	San Jose, CA 98056
Theater 102	City 15, ST 150 81670

Movies playing in theater: AMC Marcado

Movie	User Rating	Show Timing
Bombay Velvet	*2.5	16.00 17.30
Tanu Weds Manu	*4	15.15
Aloft	*3.5	15.30
Batman DoJ	*4.5	12.30
SPY	*3.5	20.00

FlixTiqs Movie Booking App

localhost:8080/flixtiqsSite/view/home.html#/shows/90

## FlixTiqs Movie Ticket Booking App

Home Admin

Book Ticket for movie Bombay Velvet at 16.00

You have booked 3 ticket/s for Movie Bombay Velvet at show time 16.00

Available Tickets  77

Ticket Price  \$12.5

No. of Tickets  3

Total Price  \$37.5

Buy Tickets