BookMyShow Theatre Show Database Design – Debayan Ray

This document contains the complete database design for a movie ticketing scenario similar to BookMyShow. It includes the list of all tables with their attributes, sample rows, SQL statements to create the tables following 1NF, 2NF, 3NF, and BCNF, and the SQL query to fetch all shows for a given date and theatre.

# Tables and Attributes

## 1. Theatre

Attributes:  
• theatre\_id (PK)  
• name  
• location

## 2. Movie

Attributes:  
• movie\_id (PK)  
• title  
• language  
• format (e.g., 2D, 3D, 4DX)  
• certificate (UA, U, etc.)

## 3. ShowDetails

Attributes:  
• show\_id (PK)  
• theatre\_id (FK → Theatre)  
• movie\_id (FK → Movie)  
• show\_date (DATE)  
• show\_time (TIME)  
• screen

# Sample Data

## Theatre Table

|  |  |  |
| --- | --- | --- |
| theatre\_id | name | location |
| 1 | PVR: Nexus Forum Mall | Bangalore |
| 2 | Inox: City Centre | Kolkata |
| 3 | Miraj Cinemas | Pune |
| 4 | UpTown Hall | Dehli |

## Movie Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| movie\_id | title | language | format | certificate |
| 1 | Dasara | Telugu | 2D | UA |
| 2 | Kisi Ka Bhai Kisi Ki Jaan | Hindi | 2D | UA |
| 3 | Tu Jhoothi Main Makkaar | Hindi | 2D | UA |
| 4 | Avatar: The Way of Water | English | 3D | UA |

## ShowDetails Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| show\_id | theatre\_id | movie\_id | show\_date | show\_time | screen |
| 1 | 1 | 1 | 25-04-2023 | 12:15:00 | Screen 1 |
| 2 | 3 | 2 | 25-04-2023 | 13:00:00 | Screen 2 |
| 3 | 2 | 2 | 25-04-2023 | 16:10:00 | Screen 2 |
| 4 | 1 | 2 | 25-04-2023 | 18:20:00 | Screen 2 |
| 5 | 4 | 2 | 25-04-2023 | 19:20:00 | Screen 2 |
| 6 | 3 | 2 | 25-04-2023 | 22:30:00 | Screen 2 |
| 7 | 1 | 3 | 25-04-2023 | 13:15:00 | Screen 3 |
| 8 | 4 | 4 | 25-04-2023 | 19:20:00 | Screen 4 |

# SQL Statements

## P1: Create Tables

CREATE TABLE Theatre (  
 theatre\_id INT AUTO\_INCREMENT PRIMARY KEY,  
 name VARCHAR(100) NOT NULL,  
 location VARCHAR(150) NOT NULL  
);  
  
CREATE TABLE Movie (  
 movie\_id INT AUTO\_INCREMENT PRIMARY KEY,  
 title VARCHAR(150) NOT NULL,  
 language VARCHAR(50) NOT NULL,  
 format VARCHAR(50) NOT NULL,  
 certificate VARCHAR(10) NOT NULL  
);  
  
CREATE TABLE ShowDetails (  
 show\_id INT AUTO\_INCREMENT PRIMARY KEY,  
 theatre\_id INT NOT NULL,  
 movie\_id INT NOT NULL,  
 show\_date DATE NOT NULL,  
 show\_time TIME NOT NULL,  
 screen VARCHAR(20),  
 FOREIGN KEY (theatre\_id) REFERENCES Theatre(theatre\_id),  
 FOREIGN KEY (movie\_id) REFERENCES Movie(movie\_id)  
);

## Sample Inserts

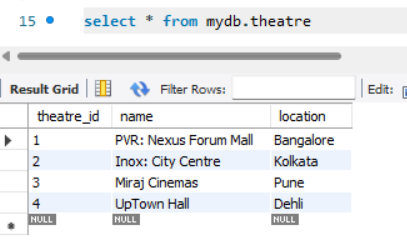
INSERT INTO Theatre (theatre\_id,name, location) VALUES

('1','PVR: Nexus Forum Mall', 'Bangalore'),

('2','Inox: City Centre', 'Kolkata'),

('3','Miraj Cinemas', 'Pune'),

('4','UpTown Hall','Dehli');



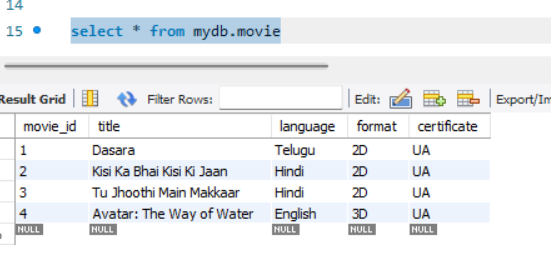
INSERT INTO Movie (movie\_id, title, language, format, certificate) VALUES

(1, 'Dasara', 'Telugu', '2D', 'UA'),

(2, 'Kisi Ka Bhai Kisi Ki Jaan', 'Hindi', '2D', 'UA'),

(3, 'Tu Jhoothi Main Makkaar', 'Hindi', '2D', 'UA'),

(4, 'Avatar: The Way of Water', 'English', '3D', 'UA');



-- Show timings for 2023-04-25

INSERT INTO ShowDetails (show\_id, theatre\_id, movie\_id, show\_date, show\_time, screen) VALUES

(1, 1, 1, '2023-04-25', '12:15:00', 'Screen 1'),

(2, 3, 2, '2023-04-25', '13:00:00', 'Screen 2'),

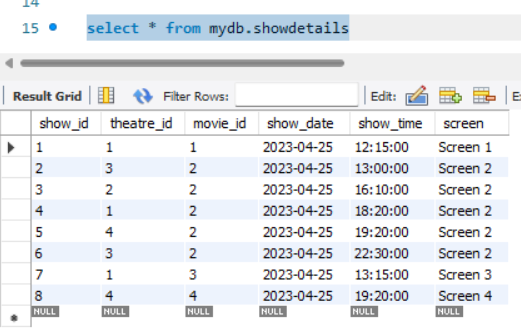
(3, 2, 2, '2023-04-25', '16:10:00', 'Screen 2'),

(4, 1, 2, '2023-04-25', '18:20:00', 'Screen 2'),

(5, 4, 2, '2023-04-25', '19:20:00', 'Screen 2'),

(6, 3, 2, '2023-04-25', '22:30:00', 'Screen 2'),

(7, 1, 3, '2023-04-25', '13:15:00', 'Screen 3'),

(8, 4, 4, '2023-04-25', '19:20:00', 'Screen 4');  


## P2: Query for Shows by Date and Theatre

**PVR: Nexus Forum Mall**  
SELECT

m.title AS Movie,

m.language AS Language,

m.format AS Format,

m.certificate AS Certificate,

s.show\_date AS ShowDate,

TIME\_FORMAT(s.show\_time, '%h:%i %p') AS ShowTime

FROM mydb.ShowDetails s

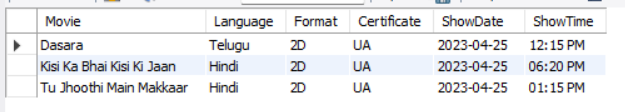
JOIN mydb.Movie m ON s.movie\_id = m.movie\_id

JOIN mydb.Theatre t ON s.theatre\_id = t.theatre\_id

WHERE t.name = 'PVR: Nexus Forum Mall'

AND s.show\_date = '2023-04-25'

ORDER BY m.title, s.show\_time;



**Inox: City Centre**

SELECT

m.title AS Movie,

m.language AS Language,

m.format AS Format,

m.certificate AS Certificate,

s.show\_date AS ShowDate,

TIME\_FORMAT(s.show\_time, '%h:%i %p') AS ShowTime

FROM mydb.ShowDetails s

JOIN mydb.Movie m ON s.movie\_id = m.movie\_id

JOIN mydb.Theatre t ON s.theatre\_id = t.theatre\_id

WHERE t.name = 'Inox: City Centre'

AND s.show\_date = '2023-04-25'

ORDER BY m.title, s.show\_time;



**Miraj Cinemas**

SELECT

m.title AS Movie,

m.language AS Language,

m.format AS Format,

m.certificate AS Certificate,

s.show\_date AS ShowDate,

TIME\_FORMAT(s.show\_time, '%h:%i %p') AS ShowTime

FROM mydb.ShowDetails s

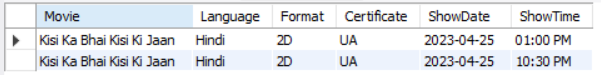
JOIN mydb.Movie m ON s.movie\_id = m.movie\_id

JOIN mydb.Theatre t ON s.theatre\_id = t.theatre\_id

WHERE t.name = 'Miraj Cinemas'

AND s.show\_date = '2023-04-25'

ORDER BY m.title, s.show\_time;



**UpTown Hall**

SELECT

m.title AS Movie,

m.language AS Language,

m.format AS Format,

m.certificate AS Certificate,

s.show\_date AS ShowDate,

TIME\_FORMAT(s.show\_time, '%h:%i %p') AS ShowTime

FROM mydb.ShowDetails s

JOIN mydb.Movie m ON s.movie\_id = m.movie\_id

JOIN mydb.Theatre t ON s.theatre\_id = t.theatre\_id

WHERE t.name = 'UpTown Hall'

AND s.show\_date = '2023-04-25'

ORDER BY m.title, s.show\_time;

