📄 PAGE 1 – TITLE

MongoDB Assignment – Ticketing System

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Course: Database Management / MongoDB

Project: Event Management & Ticketing System

Tools Used: MongoDB Shell, MongoDB Compass, GitHub

📄 PAGE 2 – OBJECTIVE
Objective :

The objective of this project is to design and implement a backend

MongoDB schema for managing events, users, ticket booking, and

categories. The system supports CRUD operations, indexing, and

query execution for real-world ticketing use cases.

📄 PAGE 3 – DATABASE SCHEMA
MongoDB Collections

1. Users

Fields: userId, name, email, phone, role (organizer/attendee), createdAt

2. Events

Fields: eventId, title, description, categoryId, dateTime, venue,

organizerId, price, totalTickets, availableTickets, status

3. Tickets

Fields: ticketId, eventId, userId, bookingDate, quantity, totalAmount, status

4. Categories

Fields: categoryId, name, description

📄 PAGE 4 – CRUD OPERATIONS
CRUD Operations

Create:

Insertion of users, events, categories, and ticket documents.

Read:

Fetching upcoming events and viewing booked tickets.

Update:

Updating available tickets after booking.

Delete:

Deleting cancelled ticket records.

All operations were executed using MongoDB Shell.

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Screenshot: Database creation & show collections

Figure 1: MongoDB Database and Collection Creation

```
> use ticketingSystem
< switched to db ticketingSystem
> db.events.insertOne({
    eventId: "E001",
    title: "Test Event"
  })
< {
    acknowledged: true,
    insertedId: ObjectId('696e67c1bc58f5dfbfe9d2cb')
  }
> show collections
< events
  users
> db.tickets.insertOne({ ticketId: "T001", status: "booked" })
< {
    acknowledged: true,
    insertedId: ObjectId('696e6806bc58f5dfbfe9d2cc')
  }
> db.categories.insertOne({ categoryId: "C001", name: "Music" })
< {
    acknowledged: true,
    insertedId: ObjectId('696e681abc58f5dfbfe9d2cd')
  }
> show collections
< categories
  events
  tickets
  users
```

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Screenshot: Categories insertion

Figure 2: Categories Collection Insert Operation

_id: ObjectId('696e681abc58f5dfbfe9d2cd')
categoryId : "C001"
name : "Music"

_id: ObjectId('696e6955bc58f5dfbfe9d2d2')
categoryId : "C001"
name : "Music"
description : "Music events"

_id: ObjectId('696e6955bc58f5dfbfe9d2d3')
categoryId : "C002"
name : "Tech"
description : "Tech conferences"

_id: ObjectId('696e6955bc58f5dfbfe9d2d4')
categoryId : "C003"
name : "Sports"
description : "Sports events"

_id: ObjectId('696e6955bc58f5dfbfe9d2d5')
categoryId : "C004"
name : "Arts"
description : "Art exhibitions"

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Screenshot: Events collection

Figure 3: Events Collection Data

```
_id: ObjectId('696e67c1bc58f5dfbfe9d2cb')
eventId : "E001"
title : "Test Event"
availableTickets : 598


_id: ObjectId('696e6979bc58f5dfbfe9d2d6')
eventId : "E001"
title : "Rock Music Night"
description : "Live rock concert"
categoryId : "C001"
dateTime : 2025-03-10T18:00:00.000+00:00
venue : "Delhi Stadium"
organizerId : "U001"
price : 500
totalTickets : 1000
availableTickets : 600
status : "upcoming"


_id: ObjectId('696e6979bc58f5dfbfe9d2d7')
eventId : "E002"
title : "Tech Conference 2025"
description : "Technology meetup"
categoryId : "C002"
dateTime : 2025-04-15T10:00:00.000+00:00
venue : "Bangalore Convention Center"
organizerId : "U002"
price : 1000
```

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Screenshot: Tickets & Users

Figure 4: Ticket Booking and User Records

_id: ObjectId('696e6806bc58f5dfbfe9d2cc')
ticketId : "T001"
status : "booked"

_id: ObjectId('696e6988bc58f5dfbfe9d2d8')
ticketId : "T001"
eventId : "E001"
userId : "U010"
bookingDate : 2026-01-19T17:27:36.454+00:00
quantity : 2
totalAmount : 1000
status : "booked"

_id: ObjectId('696e692fbc58f5dfbfe9d2ce')
userId : "U001"
name : "Amit Sharma"
email : "amit@gmail.com"
phone : "9876543210"
role : "organizer"
createdAt : 2026-01-19T17:26:07.346+00:00

_id: ObjectId('696e692fbc58f5dfbfe9d2cf')
userId : "U002"
name : "Neha Verma"
email : "neha@gmail.com"
phone : "9876543211"
role : "organizer"
createdAt : 2026-01-19T17:26:07.346+00:00

_id: ObjectId('696e692fbc58f5dfbfe9d2d0')
userId : "U010"
name : "Rahul Mehta"
email : "rahul@gmail.com"
phone : "9876543220"
role : "attendee"
createdAt : 2026-01-19T17:26:07.346+00:00

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Screenshot: Find / Update / Delete

Figure 5: Read, Update and Delete Operations

```
db.events.updateOne(
   { eventId: "E001" },
   { $set: { availableTickets: 598 } }
)
{
   acknowledged: true,
   insertedId: null,
   matchedCount: 1,
   modifiedCount: 1,
   upsertedCount: 0
}
db.tickets.deleteOne({ ticketId: "T002" })
{
   acknowledged: true,
   deletedCount: 1
}
```

```
> db.events.find({ status: "upcoming" })
< {
   _id: ObjectId('696e6979bc58f5dfbfe9d2d6'),
   eventId: 'E001',
   title: 'Rock Music Night',
   description: 'Live rock concert',
   categoryId: 'C001',
   dateTime: 2025-03-10T18:00:00.000Z,
   venue: 'Delhi Stadium',
   organizerId: 'U001',
   price: 500,
   totalTickets: 1000,
   availableTickets: 600,
   status: 'upcoming'
 }
 {
   _id: ObjectId('696e6979bc58f5dfbfe9d2d7'),
   eventId: 'E002',
   title: 'Tech Conference 2025',
   description: 'Technology meetup',
   categoryId: 'C002',
   dateTime: 2025-04-15T10:00:00.000Z,
   venue: 'Bangalore Convention Center',
   organizerId: 'U002',
   price: 1000,
   totalTickets: 800,
   availableTickets: 400,
   status: 'upcoming'
 }
```