Ex. No: 13	HOTEL MANAGEMENT SYSTEM
08.05.2025	

## AIM:

To create an efficient Hotel Management System and perform CRUD operation using node.js and MySql Workbench.

#### **HOTEL MANAGEMENT SYSTEM:**

- It is a web-based application built using Node.js, Express.js, MySQL, HTML, CSS, and JavaScript that helps users manage essential home-related tasks efficiently.
- The system provides features such as task scheduling, inventory management, and personalized reminders, all accessible through an intuitive web interface.
- This project aims to demonstrate the use of backend integration, database connectivity, and responsive UI design to solve real-life household management challenges in a user-friendly and accessible way.

#### **CREATING 'BOOKINGS' TABLE:**

Table Created.

```
id INT AUTO_INCREMENT PRIMARY KEY,

check_in DATE NOT NULL,

check_out DATE NOT NULL,

guests INT NOT NULL,

room_type VARCHAR(50) NOT NULL,

name VARCHAR(100) NOT NULL,

email VARCHAR(100) NOT NULL,

phone VARCHAR(20) NOT NULL,

created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

**FRONT-END CODING:** index.html (Home page) <!DOCTYPE html> <html lang="en"> <head> <meta charset="UTF-8"> <meta name="viewport" content="width=device-width, initial-scale=1.0"> <title>Hotel Management System</title> <!-- Bootstrap CSS --> <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet"> <!-- Custom CSS --> <link rel="stylesheet" href="styles.css"> </head> <body> <!-- Navigation Bar --> <nav class="navbar navbar-expand-lg navbar-dark bg-dark"> <div class="container"> <a class="navbar-brand" href="#">Hotel HMS</a> <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" arialabel="Toggle navigation"> <span class="navbar-toggler-icon"></span> </button> <div class="collapse navbar-collapse" id="navbarNav"> cli class="nav-item"> <a class="nav-link active" href="#home">Home</a> class="nav-item"> <a class="nav-link" href="#rooms">Rooms</a>

class="nav-item">

<a class="nav-link" href="#bookings">Bookings</a>

```
class="nav-item">
<a class="nav-link" href="#contact">Contact</a>
</div>
</div>
</nav>
<!-- Hero Section -->
<header class="hero-section text-white text-center py-5">
<div class="container">
<h1>Welcome to Hotel HMS</h1>
Experience luxury and comfort at its finest
<a href="#book-now" class="btn btn-primary btn-lg">Book Now</a>
</div>
</header>
<!-- Rooms Section -->
<section id="rooms" class="py-5">
<div class="container">
<h2 class="text-center mb-4">Our Rooms</h2>
<div class="row">
<div class="col-md-4 mb-4">
<div class="card">
<img src="https://via.placeholder.com/300x200" class="card-img-top" alt="Standard Room">
<div class="card-body">
<h5 class="card-title">Standard Room</h5>
Comfortable room with essential amenities.
$99/night
<button type="button" class="btn btn-primary">Book Now</button>
</div>
</div>
</div>
```

```
<div class="col-md-4 mb-4">
<div class="card">
<img src="https://via.placeholder.com/300x200" class="card-img-top" alt="Deluxe Room">
<div class="card-body">
<h5 class="card-title">Deluxe Room</h5>
Spacious room with premium amenities.
$149/night
<button type="button" class="btn btn-primary">Book Now</button>
</div>
</div>
</div>
<div class="col-md-4 mb-4">
<div class="card">
<img src="https://via.placeholder.com/300x200" class="card-img-top" alt="Suite">
<div class="card-body">
<h5 class="card-title">Suite</h5>
Luxurious suite with separate living area.
$249/night
<button type="button" class="btn btn-primary">Book Now</button>
</div>
</div>
</div>
</div>
</div>
</section>
<!-- Booking Form Section -->
<section id="book-now" class="py-5 bg-light">
<div class="container">
<h2 class="text-center mb-4">Book Your Stay</h2>
<div class="row justify-content-center">
<div class="col-md-8">
```

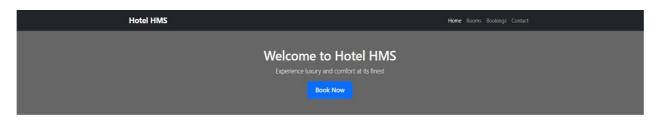
```
<form class="booking-form">
<div class="row">
<div class="col-md-6 mb-3">
<label for="check-in" class="form-label">Check-in Date</label>
<input type="date" class="form-control" id="check-in" required>
</div>
<div class="col-md-6 mb-3">
<label for="check-out" class="form-label">Check-out Date</label>
<input type="date" class="form-control" id="check-out" required>
</div>
</div>
<div class="row">
<div class="col-md-6 mb-3">
<label for="guests" class="form-label">Number of Guests</label>
<select class="form-select" id="guests" required>
<option value="1">1 Guest</option>
<option value="2">2 Guests</option>
<option value="3">3 Guests</option>
<option value="4">4 Guests
</select>
</div>
<div class="col-md-6 mb-3">
<label for="room-type" class="form-label">Room Type</label>
<select class="form-select" id="room-type" required>
<option value="standard">Standard Room</option>
<option value="deluxe">Deluxe Room</option>
<option value="suite">Suite</option>
</select>
</div>
</div>
```

```
<div class="mb-3">
<label for="name" class="form-label">Full Name</label>
<input type="text" class="form-control" id="name" required>
</div>
<div class="mb-3">
<label for="email" class="form-label">Email</label>
<input type="email" class="form-control" id="email" required>
</div>
<div class="mb-3">
<label for="phone" class="form-label">Phone Number</label>
<input type="tel" class="form-control" id="phone" required>
</div>
<button type="submit" class="btn btn-primary w-100">Confirm Booking</button>
</form>
</div>
</div>
</div>
</section>
<!-- Bookings Section -->
<section id="bookings" class="py-5">
<div class="container">
<!-- Bookings will be loaded here dynamically -->
</div>
</section>
<!-- Contact Section -->
<section id="contact" class="py-5">
<div class="container">
<h2 class="text-center mb-4">Contact Us</h2>
<div class="row">
<div class="col-md-6 mb-4">
<div class="contact-info">
<h4>Get in Touch</h4>
```

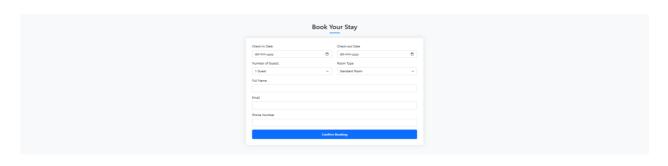
```
</div>
</div>
<div class="col-md-6">
<form class="contact-form">
<div class="mb-3">
<label for="contact-name" class="form-label">Name</label>
<input type="text" class="form-control" id="contact-name" required>
</div>
<div class="mb-3">
<label for="contact-email" class="form-label">Email</label>
<input type="email" class="form-control" id="contact-email" required>
</div>
<div class="mb-3">
<label for="message" class="form-label">Message</label>
<textarea class="form-control" id="message" rows="4" required></textarea>
</div>
<button type="submit" class="btn btn-primary">Send Message</button>
</form>
</div>
</div>
</div>
</section>
<!-- Footer -->
<footer class="bg-dark text-white py-4">
<div class="container">
<div class="row">
<div class="col-md-6">
<h5>Hotel HMS</h5>
</div>
<div class="col-md-6 text-md-end">
© 2024 Hotel HMS. All rights reserved.
</div>
```

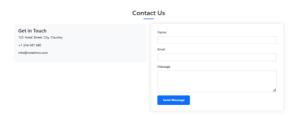
</footer>
<!-- Bootstrap JS and Popper.js -->
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
<!-- Custom JS -->
<script src="/public/js/bookings.js"></script>
</body>
</html>

# **Output (Home page)**



# Comr Rooms Standard Room Comfortable room with essential amenities. Spacious room with premium amenities. Suite Loourious suite with separate living area. S249/night Book Now Book Now





#### **BACKEND CODING:**

#### Node.js

#### Function to handle form submission

```
document.addEventListener('DOMContentLoaded', function() {
const bookingForm = document.querySelector('.booking-form');
if (!bookingForm) {
console.error('Booking form not found');
return;
}
bookingForm.addEventListener('submit', async (e) => {
e.preventDefault();
const submitButton = e.target.querySelector('button[type="submit"]');
submitButton.disabled = true;
submitButton.innerHTML = 'Processing...';
const formData = {
check in: document.getElementById('check-in').value,
check_out: document.getElementById('check-out').value,
guests: document.getElementById('guests').value,
room_type: document.getElementById('room-type').value,
name: document.getElementById('name').value,
email: document.getElementById('email').value,
phone: document.getElementById('phone').value
};
try {
const response = await fetch('/api/bookings', {
method: 'POST',
headers: {
'Content-Type': 'application/json'
},
body: JSON.stringify(formData)
const data = await response.json();
if (response.ok) {
alert('Booking created successfully!');
e.target.reset();
loadBookings(); // Reload the bookings list
} else {
alert('Error: ' + data.error);
}
} catch (error) {
console.error('Error:', error);
alert('Error creating booking. Please try again.');
} finally {
submitButton.disabled = false;
submitButton.innerHTML = 'Confirm Booking';
}
});
loadBookings();
});
```

#### **LOAD BOOKING(CREATES):**

#### Function to load all bookings

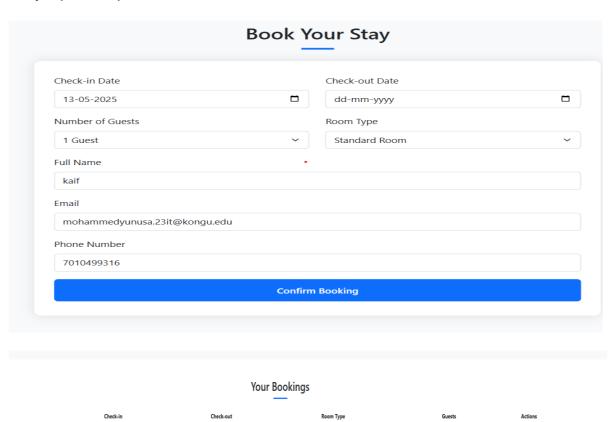
```
async function loadBookings() {
const bookingsSection = document.getElementById('bookings');
if (!bookingsSection) {
console.error('Bookings section not found');
return;
}
bookingsSection.innerHTML = '<div class="text-center"><div class="spinner-border" role="status"><span
class="visually-hidden">Loading...</span></div><;
try {
const response = await fetch('/api/bookings');
if (!response.ok) {
throw new Error('Failed to fetch bookings');
}
const bookings = await response.json();
if (bookings.length === 0) {
bookingsSection.innerHTML = '<h2 class="text-center mb-4">Your Bookings</h2>No
bookings found.';
return;
}
// Create a table to display bookings
const bookingsTable = document.createElement('table');
bookingsTable.className = 'table table-striped mt-4';
bookingsTable.innerHTML = `
<thead>
ID
Name
Check-in
Check-out
Room Type
Guests
Actions
</thead>
${bookings.map(booking => `
${booking.id}
${booking.name}
```

```
${new Date(booking.check_in).toLocaleDateString()}
${new Date(booking.check_out).toLocaleDateString()}
${booking.room_type}
${booking.guests}
<button onclick="editBooking(${booking.id})" class="btn btn-sm btn-primary">Edit</button>
<button onclick="deleteBooking(${booking.id})" class="btn btn-sm btn-danger">Delete</button>
`).join('')}
bookingsSection.innerHTML = '<h2 class="text-center mb-4">Your Bookings</h2>';
bookingsSection.appendChild(bookingsTable);
} catch (error) {
console.error('Error:', error);
bookingsSection.innerHTML = '<h2 class="text-center mb-4">Your Bookings</h2><div class="alert alert-
danger" role="alert">Error loading bookings. Please try again.</div>';
}
}
```

#### **Output (CREATES):**

2/18/2000

1/17/2001



# DELETE\_BOOKINGS(DELETES):

```
// Function to delete a booking
```

```
async function deleteBooking(id) {
if (!confirm('Are you sure you want to delete this booking?')) {
return;
}
try {
const response = await fetch(`/api/bookings/${id}`, {
method: 'DELETE'
});
if (response.ok) {
alert('Booking deleted successfully!');
loadBookings(); // Reload the bookings list
} else {
const data = await response.json();
alert('Error: ' + data.error);
}
} catch (error) {
console.error('Error:', error);
alert('Error deleting booking. Please try again.');
}
}
```

## **OUTPUT(DELETES):**



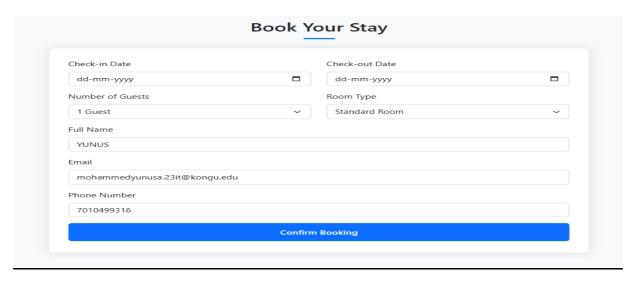
#### **EDIT\_BOOKINGS(UPDATE):**

# // Function to edit a booking

```
async function editBooking(id) {
try {
const response = await fetch(\'/api/bookings/\${id}\');
if (!response.ok) {
throw new Error('Failed to fetch booking details');
const booking = await response.json();
// Populate the form with booking data
document.getElementById('check-in').value = booking.check_in;
document.getElementById('check-out').value = booking.check out;
document.getElementById('guests').value = booking.guests;
document.getElementById('room-type').value = booking.room type;
document.getElementById('name').value = booking.name;
document.getElementById('email').value = booking.email;
document.getElementById('phone').value = booking.phone;
// Change form submission to update instead of create
const form = document.querySelector('.booking-form');
form.dataset.bookingId = id;
form.onsubmit = async (e) \Rightarrow {
e.preventDefault();
const submitButton = e.target.querySelector('button[type="submit"]');
submitButton.disabled = true:
submitButton.innerHTML = 'Updating...';
const formData = {
check_in: document.getElementById('check-in').value,
check_out: document.getElementById('check-out').value,
guests: document.getElementById('guests').value,
room type: document.getElementById('room-type').value,
name: document.getElementById('name').value,
email: document.getElementById('email').value,
phone: document.getElementById('phone').value
};
const updateResponse = await fetch(\'/api/bookings/\$\{id\}\', \{
method: 'PUT',
headers: {
'Content-Type': 'application/json'
body: JSON.stringify(formData)
});
```

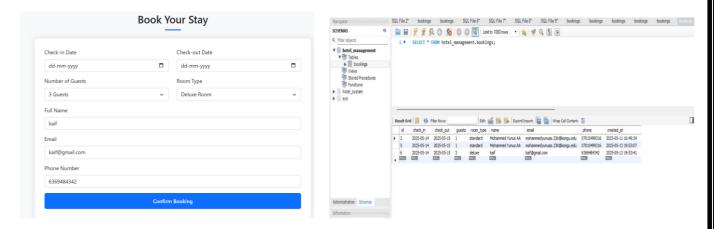
```
if (updateResponse.ok) {
alert('Booking updated successfully!');
form.reset();
form.removeAttribute('data-booking-id');
form.onsubmit = null; // Reset form submission handler
loadBookings(); // Reload the bookings list
}
else {
const data = await updateResponse.json();
alert('Error: ' + data.error);
} catch (error) {
console.error('Error:', error);
alert('Error updating booking. Please try again.');
} finally {
submitButton.disabled = false;
submitButton.innerHTML = 'Confirm Booking';
}
};
} catch (error) {
console.error('Error:', error);
alert('Error loading booking details. Please try again.');
```

#### **OUTPUT(UPDATES):**



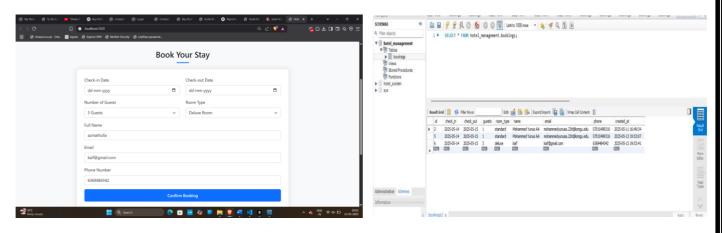


# **OUTPUT:**



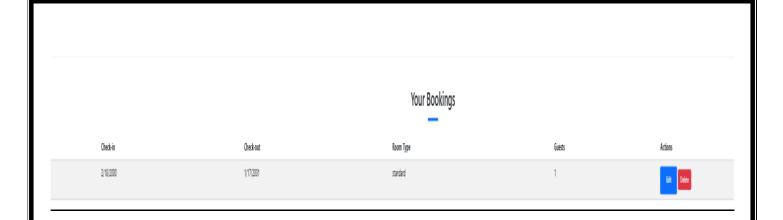
Adding a new Booking

**Listing the updated Booking** 

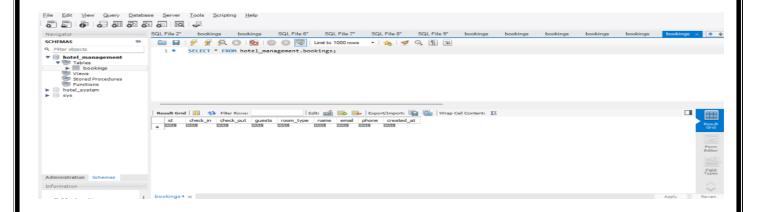


Updating a existing track

Listing the updated track



# **Deleting the existing Book**



Listing the deletion of books

CONTENTS	MARKS ALLOTED	MARKS OBTAINED
Aim, Algorithm, SQL, PL/SQL	30	
Execution and Result	20	
Viva	10	
Total	60	

# **RESULT:**

Thus, the Hotel Management Expert System was successfully developed and executed, showcasing effective task automation, and database integration was created and performed CRUD operation.