**RESTful Booker API Documentation**

**Author: Rashad**

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## **Overview**

The RESTful Booker API is a simple API designed for managing bookings, providing functionalities to create, read, update, and delete booking records. It is built using RESTful principles and allows interaction through standard HTTP methods.

## **Base URL**

The API can be accessed at:  
https://restful-booker.herokuapp.com

## **Key Functionalities**

### **1. Authentication**

* **Login Endpoint**:
  + **POST** /auth
  + Authenticates a user and returns a token for subsequent requests.
  + Requires valid username and password.

### **2. Booking Management**

* **Create a Booking**:
  + **POST** /booking
  + Allows users to create a new booking.
  + Requires booking details (e.g., first name, last name, total price, deposit paid).
* **Get All Bookings**:
  + **GET** /booking
  + Retrieves a list of all bookings.
  + Can be filtered through query parameters.
* **Get Specific Booking**:
  + **GET** /booking/{id}
  + Fetches details for a specific booking using its unique ID.
* **Update a Booking**:
  + **PUT** /booking/{id}
  + Updates details of a specific booking.
  + Requires authentication and updated booking information.
* **Partial Update of a Booking**:
  + **PATCH** /booking/{id}
  + Allows partial updates to an existing booking.
* **Delete a Booking**:
  + **DELETE** /booking/{id}
  + Removes a specific booking from the system.
  + Requires authentication.

### **3. Additional Features**

* **Search Bookings**:
  + The API allows filtering bookings based on various parameters such as date and status.
* **Response Codes**:
  + Standard HTTP response codes are utilized to indicate the outcome of requests (e.g., 200 for success, 201 for resource creation, 404 for not found).

## **Data Models**

### **Booking Model**

* **Attributes**:
  + firstname: String
  + lastname: String
  + totalprice: Integer
  + depositpaid: Boolean
  + bookingdates: Object containing checkin and checkout
  + additionalneeds: String (optional)

## **Security Considerations**

* All sensitive actions (creating, updating, deleting bookings) require authentication.
* Use of HTTPS is encouraged to secure data in transit.

## **Error Handling**

* The API provides detailed error messages for various failure scenarios, helping developers troubleshoot issues effectively.

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## **Conclusion**

The RESTful Booker API is a robust interface for managing hotel bookings, supporting a full range of CRUD operations. Its design is aligned with REST principles, providing clear endpoints, authentication mechanisms, and comprehensive documentation for developers.