**Module 3 Activity 3: Middleware**

**Bookhub Application**

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**Analysis**

**Implementation of Middleware**

**Logging Middleware**

The logging middleware captures the details of each incoming request, including the request method, the requested URL, and the date and time of the request. The middleware is placed on top of the stack to log all the incoming requests. It uses the console.log function to print the details to the console.

**Route Middleware**

The route middleware is used to check for the user’s administrative rights and to add and delete books from the local database declared const books = [].

If the user is not authenticated as an administrator, it can only add books to the database. However, if the user is authenticated as an administrator, it has the right to remove books from the database. If the user is not authenticated as an administrator, the server sends a 400 status ‘Bad Request’ with a deny access message.

**Functionality of Middleware**

**Logging Middleware**

It logs each incoming request's details, providing a record of all requests made to the Bookhub application. It helps in monitoring and debugging the application by keeping track of request activity, including request method, URL, and timestamps.

**Route Middleware**

The authentication middleware is used to protect certain routes that require user authentication. It prevents unauthorized users from accessing sensitive actions, such as adding or removing books from their cart. When a user attempts to access an authenticated route, the middleware checks if they are authenticated. If they are, they can proceed; otherwise, they receive a 400 Bad Request status with a deny access message.

**Using Postman to Validate the Application**

1 **-** Create a GET request in Postman to http://localhub:3000/ to display the welcome to Bookhub message.

2 – Create a POST request in Postman to http://localhub:3000/cart/add to add the name of a book to the local database using the information provided in the body.

3 – Create a DELETE request in Postman to http://localhub:3000/cart/remove without the administrative rights to display the 400 Bad Request status, and the ‘Should be admin’ message.

4 – Create another DELETE request in Postman to the http://localhub:3000/cart/remove with the id of 1 with the administrative rights as true ?admin=true, to delete a book from the database.

**Screen Captures**

**A screenshot of a computer

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