REST API

**Theory**:

In your Spring Boot application, you're likely using RESTful APIs to expose endpoints that enable communication between the frontend and backend. Here's an overview:

**1. REST Principles:**

- REST (Representational State Transfer) is an architectural style for designing networked applications.

- It relies on stateless communication between the client and server.

**2. HTTP Methods:**

- RESTful APIs use standard HTTP methods (GET, POST, PUT, DELETE) for CRUD operations.

- Each HTTP method corresponds to a specific operation: GET for retrieval, POST for creation, PUT for updating, DELETE for deletion.

**3. Resource Endpoints:**

- Endpoints represent resources in the system, such as users, courses, equipment, or payments.

- URLs are structured to reflect the hierarchy and nature of the resources.

**4. Request and Response Format:**

- Requests and responses typically use JSON format for data exchange.

- The HTTP status codes indicate the success or failure of an operation.

**10 Probable Questions and Answers:**

**1. Q: What is the role of REST API in the sportsclub project?**

- A: The REST API serves as a communication bridge between the frontend and backend, allowing clients to perform CRUD operations on resources like users, courses, equipment, and payments.

**2. Q: How does the sportsclub API adhere to REST principles?**

- A: The API follows REST principles by using standard HTTP methods, stateless communication, and structuring endpoints to represent resources.

**3. Q: Explain the significance of HTTP methods in the sportsclub API.**

- A: HTTP methods determine the operation to be performed on a resource—GET for retrieval, POST for creation, PUT for updating, and DELETE for deletion.

**4. Q: Give an example of a resource endpoint in the sportsclub API.**

- A: An example could be `/api/users` for managing user-related operations or `/api/courses` for handling course-related actions.

**5. Q: How is user authentication handled in RESTful requests of the sportsclub API?**

- A: User authentication is typically managed through the inclusion of JWT tokens in the headers of RESTful requests.

**6. Q: Discuss the format used for data exchange in requests and responses of the sportsclub API.**

- A: JSON format is commonly used for data exchange between clients and the sportsclub API, ensuring a lightweight and human-readable data format.