

EduTrack – Classroom & Student Management Portal

[Java](#) [Spring Boot](#) [MongoDB](#) [License](#)

Project Overview

EduTrack is a full-stack Spring Boot project designed to manage batches and student records for educational institutes. It provides a RESTful API backend with CRUD operations and a MongoDB NoSQL database for storage.

Features

- Batch Management: Create, read, update, delete batch records
 - Student Management: Can be extended
 - Health Check Endpoint: Verify if the application is running
 - RESTful APIs: Fully functional endpoints for CRUD operations
 - NoSQL Storage: MongoDB integration for flexible data storage
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Technology Stack

- Java 17
 - Spring Boot 3.x
 - Spring Data MongoDB
 - Maven for build automation
 - Lombok for boilerplate code reduction
 - MongoDB 6.x
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Project Structure

```
MarvellousPortal/  
├── src/  
│   ├── main/java/com/marvellous/MarvellousPortal  
│   │   ├── controller  
│   │   │   ├── BatchEntryController.java  
│   │   │   └── HealthCheck.java  
│   │   └── entity
```

```

├── BatchEntry.java
├── repository
│   ├── BatchEntryRepository.java
│   └── service
│       └── BatchEntryService.java
├── pom.xml
└── application.properties

```

API Endpoints

Batch Endpoints

Method	Endpoint	Description	Body Example
GET	/batches	Get all batches	-
GET	/batches/id/{id}	Get batch by ID	-
POST	/batches	Create new batch	{ "name": "Java Batch", "fees": 15000 }
PUT	/batches/id/{id}	Update batch by ID	{ "name": "Advanced Java", "fees": 18000 }
DELETE	/batches/id/{id}	Delete batch by ID	-

Health Check

Method	Endpoint	Description
GET	/health	Check if the app is running

Setup Instructions

1. Clone the Repository

```
git clone https://github.com/YourUsername/EduTrack-Portal.git
```

2. Open in IDE: IntelliJ IDEA, Eclipse, or any Java IDE.
3. Configure MongoDB in application.properties

```
spring.data.mongodb.uri=mongodb://localhost:27017/marvellousdb
spring.data.mongodb.database=marvellousdb
server.port=8080
```

4. Run the Application

```
mvn spring-boot:run
```

5. Test APIs using Postman or a Java client.

Sample JSON Requests

Create a Batch

```
{
  "name": "Java Spring Boot Batch",
  "fees": 15000
}
```

Update a Batch

```
{
  "name": "Advanced Java Batch",
  "fees": 18000
}
```

Notes

- MongoDB must be running on localhost:27017
 - HealthCheck endpoint is /health
 - Lombok annotations (@Data , @NoArgsConstructor , @AllArgsConstructor) reduce boilerplate code
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Future Enhancements

- Add Student management module
- Add Authentication & Authorization
- Integrate React/Angular frontend

- Add Reports & Analytics
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