

Project Overview

This Spring Boot application optimizes transporter assignments to shipping lanes across India, minimizing costs while ensuring full lane coverage. The system uses intelligent algorithms to find the best combination of transporters within specified constraints.

Prerequisites

Before setting up the project, ensure you have the following installed on your system:

Required Software

- **Java 21** (JDK 21 or higher)
- **Maven 3.6+** (for dependency management and build)
- **Git** (for version control)
- **IDE** (IntelliJ IDEA, Eclipse, or VS Code recommended)

Setup Instructions

• Step 1: Clone the Repository

- `bash`
- `# Clone the project repository`
- `git clone <https://github.com/Ayushman-Gaur/Transport-lane-optimizer>`
- `cd transporter-assignment`

• Step 2: Verify Java Installation

- `bash`
- `# Check Java version (should be 21 or higher)`
- `java -version`
- `# Expected output:`
- `# openjdk version "21.0.x" 2023-xx-xx`
- `# OpenJDK Runtime Environment (build 21.0.x+xx)`
- `# OpenJDK 64-Bit Server VM (build 21.0.x+xx, mixed mode, sharing)`

• Step 3: Verify Maven Installation

- `bash`
- `# Check Maven version`
- `mvn -version`

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- *# Expected output:*
- *# Apache Maven 3.x.x*
- *# Maven home: /path/to/maven*
- *# Java version: 21.0.x*

• **Step 4: Build the Project**

- `bash`
- *# Clean and compile the project*
 - `mvn clean compile`

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- *# Run tests (optional)*
- `mvn test`

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- *# Package the application*
 - `mvn clean package`

• **Step 5: Run the Application**

• **Option A: Using Maven (Development)**

- `bash`
- *# Run directly with Maven*
 - `mvn spring-boot:run`

• **Configuration**

• **Application Properties**

- The application uses the following default configuration in `application.properties`:

Server configuration

- `server.port=8080`
- `server.servlet.context-path=`
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- *# Logging configuration*
- `logging.level.com.assignment=DEBUG`
- `logging.level.org.springframework.web=INFO`

- logging.pattern.console=%d{yyyy-MM-dd HH:mm:ss} - %msg%n

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- # Jackson configuration

- spring.jackson.default-property-inclusion=NON_NULL

- spring.jackson.serialization.write-dates-as-timestamps=false

- # Application configuration

- spring.application.name=transporter-assignment