







START HERE - Your FlowTrack Journey

Welcome to FlowTrack! This guide will help you get started with your Spring Boot project.

What Was Fixed

Your repository had **structural issues** that I've now resolved:

Problems Found & Fixed:

1.  **.idea/ folder** (IntelliJ config) was tracked in git →  **Removed**
2.  **.vscode/ folder** (VS Code config) was tracked in git →  **Removed**
3.  **target/ folder** (build artifacts, 123 files) was tracked in git →  **Removed**

Why This Matters:

- **Before:** 14,251 unnecessary lines tracked in git (compiled **.class** files, IDE configs)
- **After:** Clean repository with only source code
- **Result:** No more merge conflicts from IDE settings, faster git operations, proper project structure

Git Commits Made:

- **036fe3e** - Removed IDE config and build artifacts from git tracking
 - **6ae63c0** - Added comprehensive beginner guides
-

Your Learning Resources (Read in Order)

I've created **3 comprehensive guides** specifically for you as a Spring Boot beginner:

1. **BEGINNER_GUIDE.md** ★ START HERE

Read this first! Covers:

- Spring Boot project structure explained
- Understanding layers (Model, Repository, Service, Controller)
- How to run the project
- Adding new features step-by-step
- Common development tasks
- Key annotations explained
- What files to commit/ignore

Time to read: 15-20 minutes

2. **SPRING_BOOT_VISUAL_GUIDE.md** ★ READ SECOND

Visual learner? This guide includes:

- Request flow diagrams (Browser → Controller → Service → Database)
- Complete code examples with explanations
- File structure with real examples from your project
- Annotations explained visually
- Quick command reference
- Learning path roadmap

Time to read: 20-25 minutes

3. **TROUBLESHOOTING.md** ★ REFERENCE GUIDE

Keep this bookmarked! Contains:

- Solutions to all common errors
- Build failures, database issues, port conflicts
- IDE-specific problems
- Performance optimization
- Debug logging setup
- Pre-flight checklist

Use when: You encounter any error

Quick Start (5 Minutes)

Step 1: Verify Prerequisites

```
# Check Java 11 is installed
java -version # Should show: java version "11.x.x"

# Check MySQL is running
mysql -u root -p # Enter your password

# Create database
CREATE DATABASE flowtrack;
```

Step 2: Configure Database

Edit [src/main/resources/application.properties](#):

```
spring.datasource.url=jdbc:mysql://localhost:3306/flowtrack
spring.datasource.username=root
spring.datasource.password=YOUR_PASSWORD_HERE
```

Step 3: Build & Run

```
# Clean build
mvn clean install

# Run application
mvn spring-boot:run

# Or use the batch file
.\start.bat
```

Step 4: Access Application

Open browser: **http://localhost:8080**






Understanding Your Project

What is FlowTrack?

An **Inventory Management System** built with:

- **Spring Boot 2.7.18** (Java web framework)
- **Java 11** (Programming language)
- **MySQL** (Database)
- **Thymeleaf** (HTML templating)
- **Maven** (Build tool)

Project Statistics:

-  **11 Controllers** - Handle web pages
-  **13 Services** - Business logic
-  **10 Repositories** - Database access
-  **11 Models** - Database tables
-  **30+ Templates** - HTML pages

Main Features:

- ☒ Item management (Add, Edit, Delete, View)
 - ☒ User management (Admin, roles)
 - ☒ Vendor management
 - ☒ Item issuance & returns
 - ☒ Repair tracking
 - ☒ Fine management
 - ☒ Reporting & analytics
 - ☒ Chatbot integration (Gemini AI)
-

Clean File Structure (After Cleanup)

```

FlowTrack/
├── .git/                ← Git repository
├── .gitignore           ← What to ignore (updated!)
├── .idea/              ← Your IntelliJ settings (NOT tracked)
├── .vscode/            ← Your VS Code settings (NOT tracked)
├── target/             ← Build output (NOT tracked)
├── src/
│   ├── main/
│   │   ├── java/.../IMS/ ← YOUR CODE IS HERE
│   │   │   ├── controller/ ← Web endpoints
│   │   │   ├── service/    ← Business logic
│   │   │   ├── repository/ ← Database
│   │   │   ├── model/      ← Tables
│   │   │   └── ...
│   │   └── resources/
│   │       ├── application.properties ← CONFIG
│   │       ├── static/               ← CSS/JS
│   │       └── templates/            ← HTML
│   └── test/                        ← Tests
├── pom.xml                         ← Dependencies
├── BEGINNER_GUIDE.md               ← Read first!
├── SPRING_BOOT_VISUAL_GUIDE.md     ← Visual learner guide
├── TROUBLESHOOTING.md              ← Error solutions
└── [Other .md files]              ← Various documentation

```

Your Learning Path

Week 1: Explore & Understand

- ☐ Read [BEGINNER_GUIDE.md](#)
- ☐ Read [SPRING_BOOT_VISUAL_GUIDE.md](#)
- ☐ Run the application successfully
- ☐ Explore existing pages (Items, Vendors, Users)
- ☐ Read through [ItemController.java](#) and [ItemService.java](#)

Week 2: Make Small Changes

- ☐ Modify a template (change button color)
- ☐ Add a new field to [Item](#) model
- ☐ Create a simple "Hello World" controller
- ☐ Understand the request flow

Week 3: Build a Feature

- ☐ Create a new entity (e.g., Category)
- ☐ Add CRUD operations

- ☐ Test thoroughly

Week 4: Advanced Topics

- ☐ Study Spring Security (authentication)
- ☐ Learn REST APIs
- ☐ Explore the chatbot integration

Essential Commands

```
# Build Project
mvn clean install           # Full build
mvn clean install -DskipTests # Skip tests (faster)

# Run Application
mvn spring-boot:run         # Development mode
.\start.bat                 # Using batch file
java -jar target/IMS-AP-0.0.1-SNAPSHOT.jar # Production

# Git Operations
git status                  # Check status
git add .                  # Stage changes
git commit -m "message"    # Commit
git push                   # Push to GitHub

# Database
.\setup-mysql-database.bat # Setup database
.\check-database.bat       # Check connection
mysql -u root -p           # Access MySQL CLI

# Clean Start
Remove-Item -Recurse -Force target # Delete build folder
mvn clean install             # Rebuild
```

? Common Questions

Q: Can I use VS Code instead of IntelliJ?

☒ Yes! Install:

- Extension Pack for Java
- Spring Boot Extension Pack

Q: What if I break something?

```
# Revert all changes
git checkout .
```

```
# Or create a backup branch first  
git checkout -b backup-before-changes
```

Q: How do I add a new dependency?

1. Go to mvnrepository.com
2. Search for library
3. Copy XML snippet
4. Paste into `<dependencies>` section in [pom.xml](#)
5. Run `mvn clean install`

Q: Where do I write my code?

- **Controllers:** `src/main/java/com/example/IMS/controller/`
- **Services:** `src/main/java/com/example/IMS/service/`
- **Models:** `src/main/java/com/example/IMS/model/`
- **HTML:** `src/main/resources/templates/`
- **CSS/JS:** `src/main/resources/static/`

Q: How do I debug errors?

1. Read the error message in console
2. Check [TROUBLESHOOTING.md](#)
3. Enable debug logging in [application.properties](#)
4. Google the specific error

Today's Action Items

☒ Done by me:

- ☒ Removed `.idea/`, `.vscode/`, `target/` from git
- ☒ Created beginner guides
- ☒ Verified `.gitignore` is correct

☒ Your turn:

- ☐ Read [BEGINNER_GUIDE.md](#)
- ☐ Configure [application.properties](#) with your MySQL password
- ☐ Run `mvn clean install`
- ☐ Start the application with `mvn spring-boot:run`
- ☐ Access `http://localhost:8080` in browser
- ☐ Explore the UI

Need Help?

When You're Stuck:

1. Check [TROUBLESHOOTING.md](#) for your specific error
2. Read the guides: [BEGINNER_GUIDE.md](#) & [SPRING_BOOT_VISUAL_GUIDE.md](#)
3. Search Stack Overflow with your error message
4. Ask in Spring Boot communities

Good Error Reports Include:

- What you were trying to do
- Exact error message (full stack trace)
- Code snippet causing the issue
- What you've already tried

🔧 Pro Tips

💡 Always commit before making big changes

```
git add .  
git commit -m "Working state before XYZ"
```

💡 Rebuild after code changes

```
mvn clean install
```

💡 Use Spring Boot DevTools for auto-restart (Already in your [pom.xml](#))

💡 Keep your guides handy Bookmark these files for quick reference!

📁 Git Cleanup Summary

Removed from git tracking:

- 123 files
- 14,251 lines
- ~2.5 MB of unnecessary data

Your repository is now:

- ☒ Clean and professional
- ☒ No merge conflicts from IDE configs
- ☒ Faster git operations
- ☒ Following best practices

Files still exist locally (not deleted), just not tracked by git anymore:


- [.idea/](#) - Your IntelliJ settings
- [.vscode/](#) - Your VS Code settings

- [target/](#) - Build output (regenerated on build)
-







You're Ready!

Your repository is now **properly structured** and you have **comprehensive guides** to learn Spring Boot.

Start here: Open [BEGINNER_GUIDE.md](#) and begin your journey!

Remember: Every expert was once a beginner. Take it step by step, and don't hesitate to experiment! 

Quick Links

-  [BEGINNER_GUIDE.md](#) - Complete beginner's guide
 -  [SPRING_BOOT_VISUAL_GUIDE.md](#) - Visual diagrams & examples
 -  [TROUBLESHOOTING.md](#) - Error solutions
 -  [ARCHITECTURE.md](#) - System architecture
 -  [SECURITY_RBAC.md](#) - Security & roles
 -  [REPORTS_MODULE.md](#) - Reporting features
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Made with  for beginners. Happy coding!