

Introduction

StockFellow is a React Native (Expo) mobile application that connects to a Java Spring Boot backend microservices architecture. This document provides step-by-step installation instructions for setting up the development environment on Windows, macOS, and Linux.

System Overview

- Frontend: React Native (Expo) mobile app
- Backend: Java Spring Boot microservices (Dockerized)
- Database: PostgreSQL, MongoDB and Alfresco (Dockerized)
- Authentication: JWT-based with MFA support
- Storage: AsyncStorage for local data caching

Prerequisites

For All Operating Systems

Requirement	Version	Installation Guide
Node.js	≥18.x	Node.js Official
npm / Yarn	Latest	Comes with Node.js
Java JDK	17+	OpenJDK
Maven	≥3.8.x	Maven Guide
Docker, Docker Compose & Docker Desktop	Latest	Docker Docs

Expo CLI	Latest	<code>npm install -g expo-cli</code>
Git	Latest	Git Installation

Additional for Mobile Development

Requirement	OS	Installation Guide
Android Studio (for emulator)	Windows/macOS/Linux	Android Studio
Xcode (iOS Simulator, macOS only)	macOS	Xcode (App Store)

Installation and Running

Step 1: Clone & Setup Monorepo

```
git clone https://github.com/COS301-SE-2025/StockFellowstockfellow.git
```

```
cd stockfellow
```

```
npm install # Install root dependencies
```

Step 2: Backend Services Setup

```
# From the root folder, while Docker Desktop running
```

```
docker-compose up --build
```

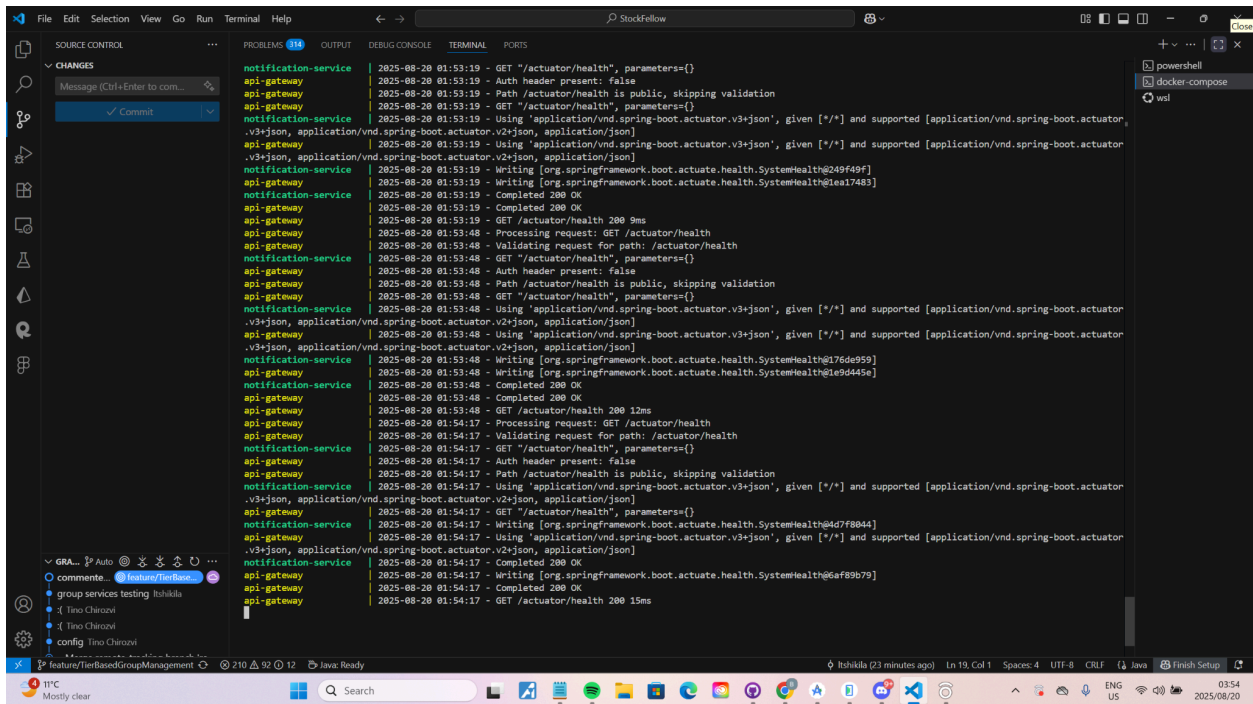


Figure: Docker backend running

Step 3: Mobile App Setup

```
cd apps/mobile-app
```

1. Install dependencies

```
npm install
```

2. Start development

```
npm run start
```

—OR—

```
npx expo start --clear # clears bundler cache
```

3. Open app in emulator(e.g. Press a for Android emulator)



Figure: React Native app running on Android emulator

Troubleshooting

Issue	Solution
Docker fails to start	Ensure Docker Desktop is running
Expo app not connecting	Check <code>.env</code> <code>API_BASE_URL</code>
Android Emulator issues	Run <code>adb devices</code> to check connection
iOS Simulator issues (macOS)	Ensure Xcode Command Line Tools are installed

User Manual

For detailed usage instructions, refer to:

[StockFellow User Manual](#)