

## Bank Account Project

### Overview







**BankAccountProject** is a simple Java-based banking system built using **Maven** and tested with **JUnit 5**.

It demonstrates the core functionalities of a banking application such as **deposit**, **withdrawal**, **transfer**, and **interest calculation**.

This project is great for **beginners learning Java, OOP principles, and Maven testing setup**.

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### Features

-  **Deposit money** into your account
  -  **Withdraw money** safely
  -  **Transfer funds** between two accounts
  -  **Calculate interest** based on rate and years
  -  **JUnit 5 Test Cases** for automated testing
  -  **Maven-based project structure** for easy build and management
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### Technologies Used

Component	Description
Language	Java 17
Build Tool	Apache Maven
Testing Framework	JUnit 5
IDE Support	IntelliJ IDEA / Eclipse / VS Code

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## Project Structure

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Copy code

BankAccountProject

└─ pom.xml

└─ src

└─ main

| └─ java

| └─ com

| └─ bank

| └─ BankAccount.java

| └─ Main.java

└─ test

└─ java

└─ com

└─ bank

└─ BankAccountTest.java

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## How to Run

### Step 1: Compile the Project

mvn clean compile

### Step 2: Run All Tests

mvn test


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## Concepts Covered

- **Object-Oriented Programming (OOP)**  
(Encapsulation, Constructors, Method Calling)
  - **JUnit Testing** for validation
  - **Maven lifecycle** (compile, test, exec)
  - **Java project modular structure**
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## Future Enhancements

- Add **transaction history logs**
- Include **minimum balance check**
- Add **user input (interactive console)** version
- Connect with a **database (MySQL / MongoDB)**