

Project Overview — BudgetIQ

1. Project Title

BudgetIQ

Your best friend for better saving

2. Objective / Vision

BudgetIQ aims to simplify and enhance personal finance management by combining intelligent automation, clear analytics, and user-centric design.

The platform helps users **track expenses, plan budgets, set financial goals, and manage recurring transactions** with ease. Through data visualization, smart alerts, and upcoming AI-powered insights, BudgetIQ empowers users to make informed financial decisions and build better money habits.

The vision is to create a **comprehensive, secure, and cloud-enabled budgeting solution** that evolves with users' needs—making financial planning **effortless, transparent, and future-ready**.

3. Key Features Summary

- **Secure Authentication:**
Implements JWT-based authentication to protect user sessions and ensure data privacy.
- **Two-Factor Authentication (2FA):**
Adds an extra layer of security by requiring users to verify their identity through a one-time code or authentication app, ensuring sensitive financial data remains protected.
- **Expense Tracking:**
Users can add, view, and categorize daily transactions for better visibility into their spending habits. Each transaction is organized by category, date, and payment method to provide a clear financial overview.
- **Budget Planning:**
Allows users to set and monitor monthly or custom budgets. The system visually indicates spending progress and alerts users as they approach their limits.
- **Goal Tracking:**
Users can set specific **financial goals** (such as saving for a trip or gadget) and allocate savings toward them over time. The dashboard displays progress in percentage form, helping users stay motivated and on track to achieve their targets.

- **Automatic Recurring Transactions:**
Enables users to define recurring income or expense entries (like rent, subscriptions, or salaries). The system automatically adds these transactions at predefined intervals — daily, weekly, or monthly — ensuring accurate and consistent financial records without manual input.
- **Smart Alerts & Notifications:**
Sends timely reminders when users are nearing budget limits or when a recurring transaction is due.
- **Analytics Dashboard:**
Provides visual charts and insights into spending trends, helping users identify high-expense categories and optimize savings.
- **(Upcoming) AI Assistant:**
The next version of BudgetIQ (v2.0) will include AI integration to offer **personalized budget recommendations, expense predictions, and intelligent insights** for smarter financial decisions.
- **(Upcoming) Cloud Sync:**
The next version of BudgetIQ (v2.0) will include Cloud Sync for All user data — transactions, goals, and settings — is securely stored in the cloud, allowing **multi-device access**. Users can seamlessly continue managing their budgets from any device, with automatic backups and encrypted storage for enhanced security.

4. Tech Stack

LAYER	TECHNOLOGY
FRONTEND	React.js, HTML5, CSS3, JavaScript
BACKEND	Java 17, Spring Boot
DATABASE	MySQL
AUTHENTICATION	JWT
VERSION CONTROL	Git & GitHub
BUILD TOOL	Maven
DEPLOYMENT / HOSTING	AWS EC2 or Localhost (for dev)
AI INTEGRATION (PLANNED)	OpenAI API / LangChain

5. Architecture Overview

BudgetIQ follows a **layered modular architecture** designed for scalability, maintainability, and secure data flow.

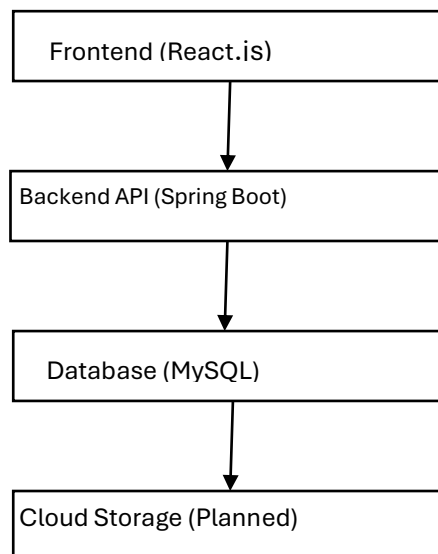
The system consists of three main layers — **Frontend, Backend, and Database** — connected through RESTful APIs.

- The **Frontend (React.js)** provides an interactive and responsive user interface for managing expenses, budgets, goals, and reports. It communicates with the backend via secured API endpoints.
- The **Backend (Spring Boot)** handles all business logic, including transaction management, goal tracking calculations, recurring transaction scheduling, and authentication using **JWT**.
- The **Database (MySQL)** stores structured financial data such as user profiles, transactions, goals, and recurring payment configurations.

Planned enhancements include:

- **AI Integration** for predictive analytics and personalized financial recommendations.
- **Cloud Sync** for secure, multi-device data access through cloud-based storage.

This architecture ensures a **clean separation of concerns**, supports **modular feature expansion**, and enables **future integration** with AI services and cloud environments.



6. Target Users

BudgetIQ is designed for a wide range of users who want to take control of their personal finances through an intuitive and intelligent platform:

- **Individuals & Professionals:** To track daily expenses, automate recurring transactions, and plan monthly budgets effectively.
- **Students & Young Earners:** To build financial discipline, set short-term saving goals, and develop better spending habits early on.
- **Small Business Owners & Freelancers:** To monitor income, categorize transactions, and gain insights into cash flow and profit margins.

BudgetIQ's simple interface, analytical dashboard, and goal-oriented design make it suitable for anyone seeking a **structured, data-driven approach to personal finance management**.

7. Future Enhancements (Planned Features)

- **AI-Based Insights:** Personalized expense predictions, spending analysis, and smart saving recommendations.
- **Chat-Based Financial Assistant:** Interactive assistant to answer finance queries and suggest money-saving strategies.
- **Cloud Sync & Backup:** Secure synchronization of all financial data across devices with automatic backups.
- **Bank Integration:** Direct connection to banking APIs for automatic transaction imports and balance updates.
- **Mobile Application:** Dedicated mobile app for Android and iOS for easy on-the-go access.
- **Dark Mode & Custom Themes:** Enhanced UI personalization and accessibility options.