

Infosys Springboard Virtual Internship 6.0 Completion Report

Team Details <Do not mention any personally identifiable information like email ID, institute details, mobile phone number etc.>

Batch Number 4

Start date: 13-10-2025

Names: Nikhil Vijay Kumar Kudipudi

Internship Duration: 8 Weeks

1. Project Title

Infosys_InsurAI – Corporate Policy Automation & Intelligence System

2. Project Objective

The primary objective is to build a centralized system that allows admins to easily create, update, view, and manage various insurance policies, reducing manual work and improving organizational efficiency.

Integrate Gemini API as a supportive tool to assist users with explanations, policy-related queries, and basic guidance.

This project aligns with the evolving digital transformation requirements within the insurance industry by ensuring faster onboarding, secure authentication, and automated processing.

3. Project description in detail

The *InsurAI – Corporate Policy Automation and Intelligence System* is a full-stack web application designed to simplify and modernize the management of corporate insurance policies. The system enables administrators to easily create, update, view, and organize various insurance policies through an intuitive interface, reducing manual effort and improving operational efficiency. Built using React, Tailwind CSS, Spring Boot, and MySQL, the platform ensures secure access through JWT authentication and delivers smooth performance for both admins and users. Gemini API is integrated as a supportive tool to assist users by providing explanations and policy understanding.

My Approach

The project followed an iterative development approach, starting with core authentication and progressively adding sophisticated features like real-time notifications and admin capabilities. Each feature was implemented as an independent module to ensure stability and easy maintainability.

Key Features Developed

- Secure User Authentication – Login, registration, and JWT-based protected access.
- Policy Management System – Browse, view, and compare detailed insurance policies.
- Admin Dashboard – Role-based access for managing users and policies efficiently.
- User Dashboard – Personalized overview of user details and policy interactions.
- Responsive UI Design – Optimized for mobile, tablet, and desktop devices.
- Protected Routing – Ensures secure navigation for authenticated users only.
- Gemini Assistant Support – Provides helpful guidance and answers to policy-related queries.

Technologies Used

Frontend

- React + Vite – Fast and modular UI development
- Tailwind CSS – Utility-first responsive styling

Backend

- Spring Boot (Java) – API development and business logic
- Spring Security + JWT – Secure authentication and authorization

Database

- MySQL – Relational database for structured data storage

AI Assistance

- Gemini API – Provides basic guidance and support to users

Development Tools

- IntelliJ IDEA , VS Code , Git , GitHub

Deployment

- GitHub Repository – Hosting and maintaining the project codebase

4. Timeline Overview

Week	Activities Planned	Activities Completed
Week 1	Project planning & React setup, UI design	Completed React application structure, routing setup, component architecture
Week 2	User authentication module development	Implemented user login/registration, JWT-based authentication, local/session storage, and protected routes
Week 3	Policy management system development	Developed policy listing pages, detailed policy views, and interactive policy browsing interface
Week 4	Admin policy creation & management	Added features for admins to create, update, and manage insurance policies with form validation
Week 5	User and Admin Dashboards	Built user dashboard (profile, activity overview) and admin dashboard (users, policy overview, role-based access)
Week 6	UI responsiveness & system security	Enhanced responsive UI for all pages, improved protected routing, and secured backend APIs
Week 7	Gemini API integration & support assistant	Integrated Gemini to assist with policy queries, user guidance, and support messages
Week 8	Final testing, debugging & deployment	Performed full system testing, backend–frontend integration fixes, created GitHub repository, and finalized Docker setup

5a. Key Milestones

Milestone	Description	Status
Project Initiation	Requirement gathering, technology stack finalization, React + Spring Boot project setup	Completed
Core System Development	Implementation of user authentication, protected routing, and policy management features	Completed
User & Admin Interface Development	Development of user dashboard, admin dashboard, policy views, and role-based access	Completed
Feature Enhancement & AI Support	Integration of Gemini assistant, UI responsiveness improvements, and security enhancements	Completed
Testing & Deployment	System testing, debugging, GitHub deployment.	Completed
Final Submission	Complete insurance management platform	Completed

5b. Project execution details

The project implementation followed a module-wise approach:

1. Frontend Architecture Execution

- Designed reusable React components with a clear folder structure
- Implemented React Router for smooth page navigation
- Added Context/API integration for handling authentication and user state
- Developed a responsive UI using Tailwind CSS

2. Core Feature Development

- Built **JWT-based User Authentication** with secure login and registration

- Developed **Policy Management Module** with policy listing and detailed views
- Implemented **Admin Policy Controls** for adding and managing policies

3. User Interaction Modules

- Created **User Dashboard** showing profile and activity overview
- Added **Admin Dashboard** with role-based access and system insights
- Integrated **Gemini Assistant** for user help and policy queries

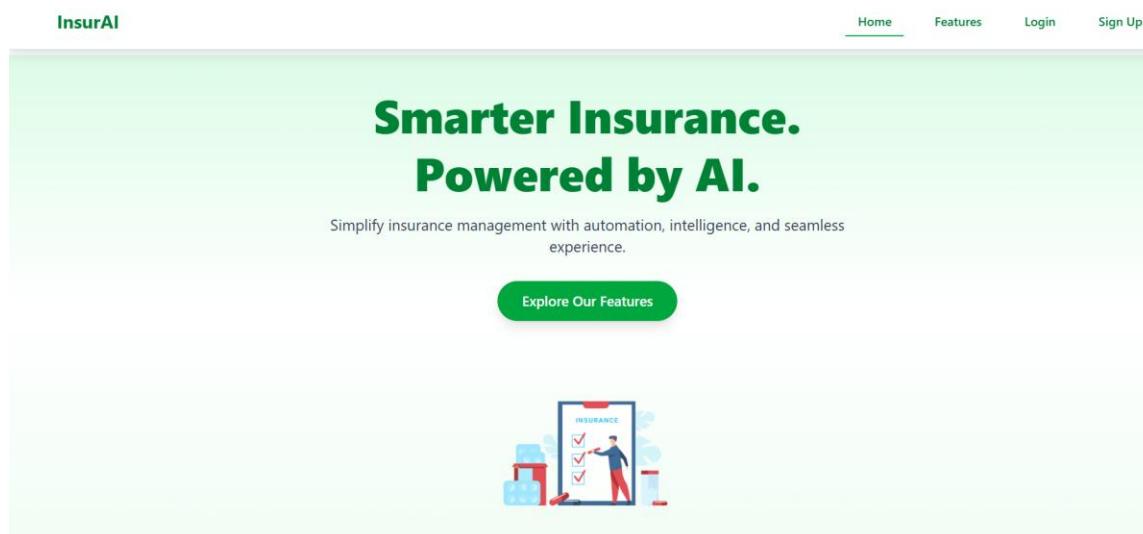
4. System Integration

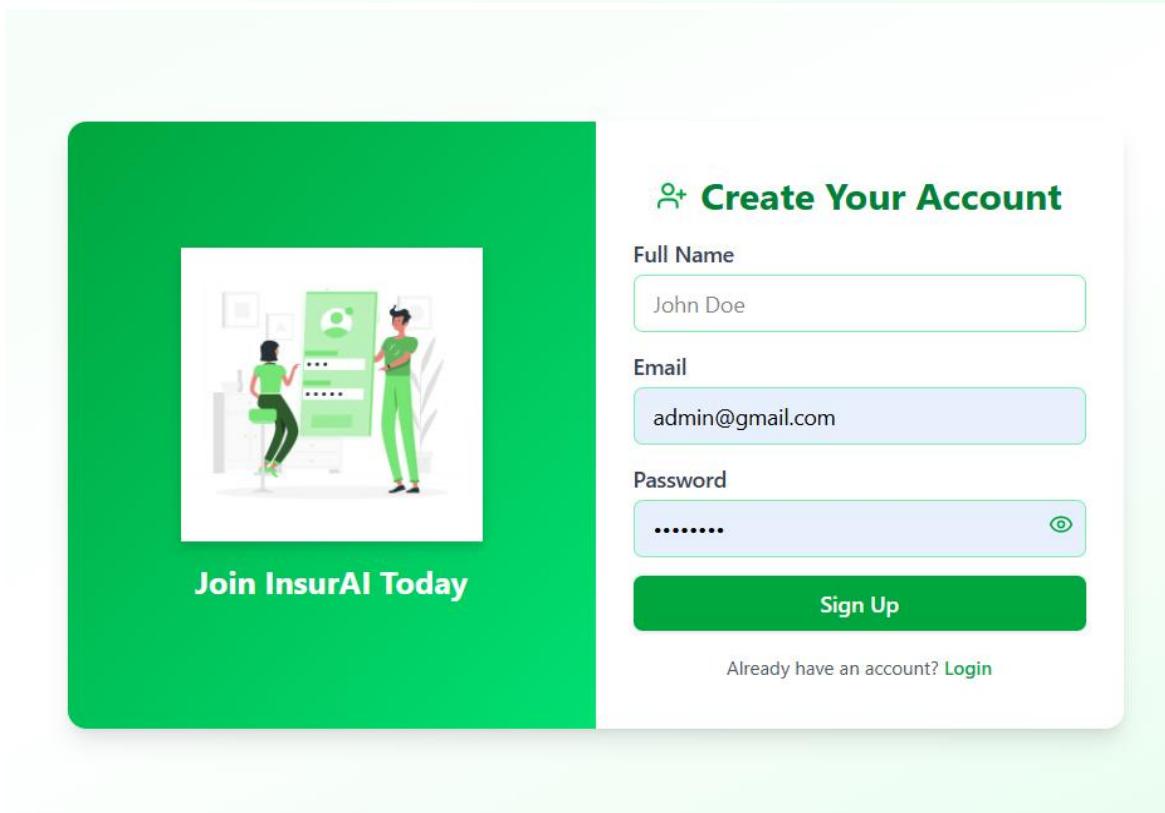
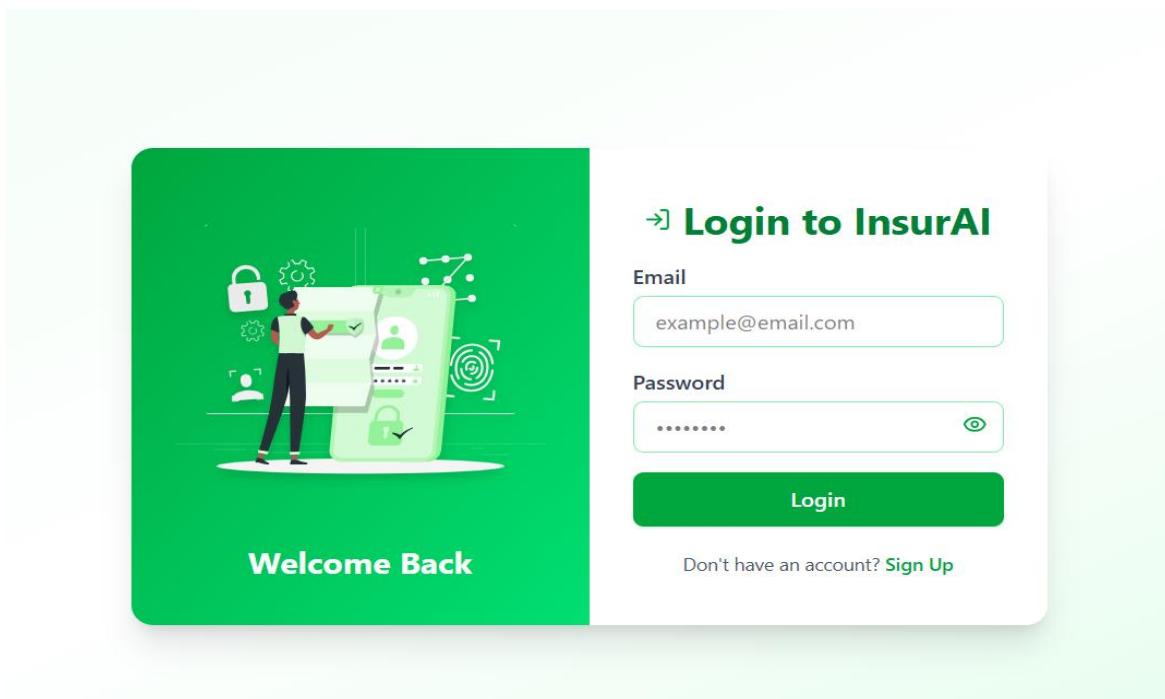
- Connected frontend with **Spring Boot APIs** for all operations
- Implemented **MySQL database** for secure, persistent data storage
- Ensured protected routing and role validation across the system

5. Final Testing & Deployment

- Performed end-to-end testing for UI, API, and database flows
- Fixed bugs, optimized UI responsiveness, and improved security
- Pushed complete codebase to **GitHub repository** for deployment

6. Snapshots / Screenshots





InsurAI

User

InsurAI User

Manage Policies

Browse Policies

File New Claims

Track Claims

Support & Help

Dashboard Overview

Welcome back, User!

Quick Access

Your central hub to manage all insurance needs. Choose an action below.

**Manage Policies**

View, update, and renew all your active insurance policies.

**Browse Policies**

Explore new plans, compare options, and get quotes.

**File New Claims**

Start the process for a new claim with guided steps.

**Track Claims**

Monitor the status and progress of your open claims in real-time.

**Support & Help**

Access FAQs, message support, or find contact information.

InsurAI

Admin

InsurAI Admin

Overview

Manage Policies

Customers

Claims & Requests

Quick View

Settings

Overview

Welcome, Admin !

The Future of Intelligent Insurance Management

InsurAI leverages advanced artificial intelligence to streamline policy administration, automate claim processing, and provide deep analytical insights. Empowering administrators with a secure, efficient, and data-driven platform to deliver superior insurance services.

AI-Powered

Secure

Analytics

7. Challenges Faced

Throughout the internship, I faced several technical and non-technical challenges:

Technical Challenges

- Integrating React frontend with Spring Boot backend APIs securely using JWT
- Managing complex global state across dashboards, policies, and admin features
- Ensuring role-based access control for both users and admins
- Designing responsive UI layouts using Tailwind CSS for all screen sizes
- Handling asynchronous API calls and ensuring consistent data synchronization with MySQL

Development Challenges

- Debugging API communication errors between frontend and backend
- Maintaining code stability while adding multiple modules (auth, policies, dashboards)
- Ensuring smooth user experience without breaking routing or protected pages
- Performing end-to-end testing manually across user and admin roles
- Handling validation, error states, and secure form submissions across modules

8. Learnings & Skills Acquired

Technical Skills React.js component development & hooks

- React Router for navigation & protected routes
- Spring Boot API integration and JWT authentication
- MySQL database handling using backend endpoints
- Tailwind CSS & responsive UI design
- Form validation and error handling
- Git & GitHub for version control and collaboration

Soft Skills

- Problem-solving and debugging
- Time management during module development
- Clear project planning and feature prioritization
- Independent learning & implementation
- Writing clean, maintainable code

9. Testimonials from team

This project gave me hands-on experience in building a complete React.js application with real-world features like user authentication, appointment scheduling, and real-time notifications.

I gained practical skills in component-based architecture, state management, and responsive UI design.

Developing the InsureAI platform improved my confidence in frontend development and deepened my understanding of user-centric design and feature planning.

10. Conclusion

The InsurAI project was a highly valuable learning experience that strengthened my frontend development skills using React.js. By building a complete insurance management system with features such as secure authentication, intuitive dashboards, responsive design, and integrated assistance, I gained practical expertise in developing real-world applications. This project enhanced my ability to plan modules, structure clean components, manage state effectively, and deliver a smooth user experience. Overall, the implementation deepened my technical confidence and prepared me for more advanced full-stack development opportunities in the future.

11. Acknowledgements

I would like to thank:

- Infosys Springboard for providing this valuable internship opportunity
- The mentor and team at Infosys for their guidance and support
- Online developer communities and documentation resources that helped solve technical challenges
- The Infosys Springboard platform for the structured learning modules and project framework