

INSURANCE BROKER MANAGEMENT SYSTEM REPORT

J2EE Web Components

ITE-5332-0NA

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1. Introduction

1.1 Project Overview

The **Insurance Broker System** is a web-based solution designed to streamline insurance management tasks for brokers. It includes customer, policy, and claims management, while leveraging scalable architecture and efficient persistence mechanisms.

1.2 Objectives

- Simplify the management of insurance data.
- Automate claims processing and tracking.
- Provide robust reporting features.
- Ensure secure and concurrent data handling.

2. Problem Statement

Traditional methods for managing insurance records are prone to errors, inefficiencies, and limited scalability. This project addresses these issues by implementing an automated and scalable system for brokers.

3. Proposed Solution

The system provides:

- Centralized management of customer, policy, and claim data.
- Automated reporting and analytics for brokers.
- Thread-safe data operations using a Repository pattern.

4. Technologies Used

- **Frontend:** HTML, CSS, JavaScript
- **Backend:** Java Servlets, J2EE Architecture
- **Database:** MySQL with Hibernate
- **Containerization:** Podman
- **Patterns:** Repository Design Pattern

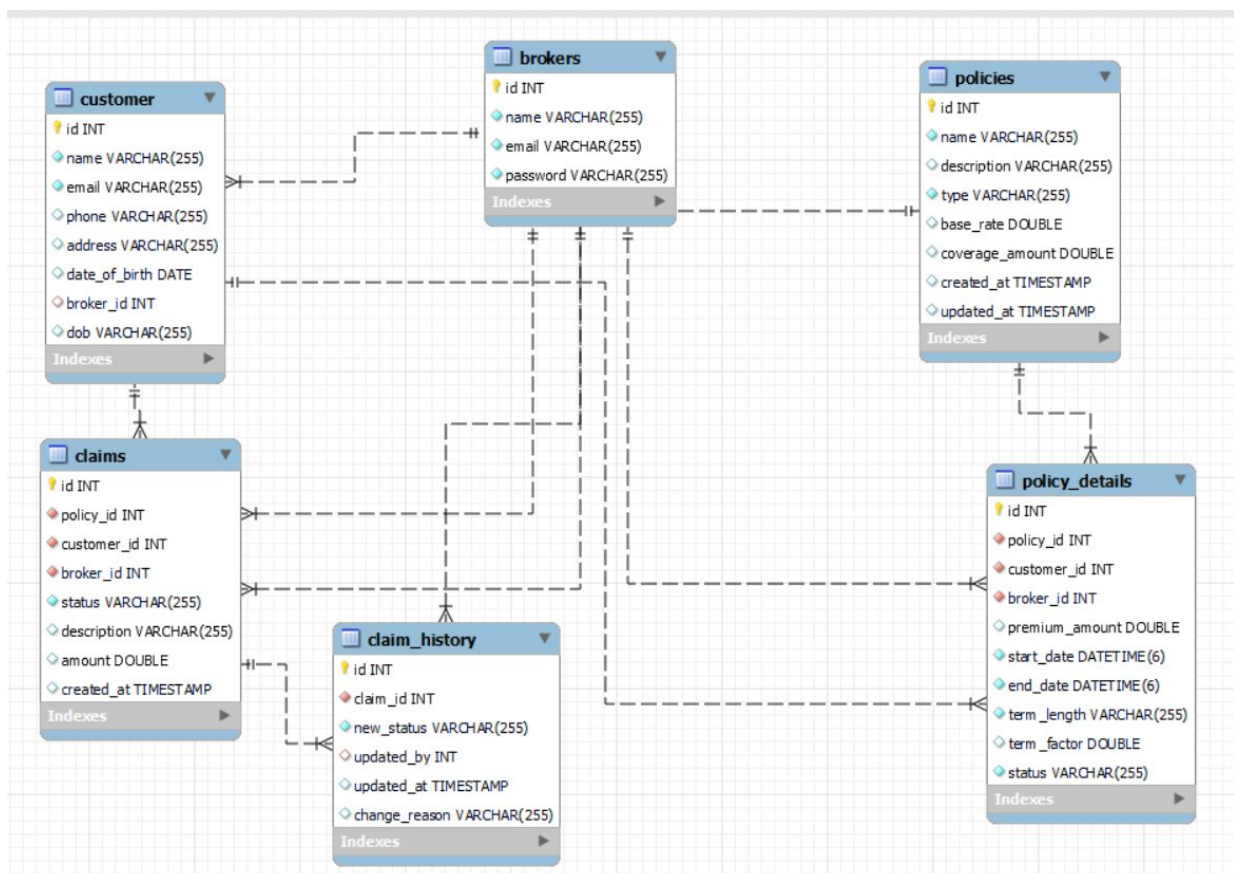
5. Database Schema

- ❖ **Brokers Table:** Stores broker data, including name, email, and encrypted passwords.

- ❖ **Customers Table:** Manages customer data, such as personal details, contact information, and associated brokers.
- ❖ **Policies Table:** Defines insurance policies with details like type, base rate, and coverage amount.
- ❖ **PolicyDetails Table:** Links policies to customers and brokers, including term length, premium amount, and status.
- ❖ **Claims Table:** Tracks insurance claims with details like status, description, and claim amount.
- ❖ **ClaimHistory Table:** Logs updates for claims, including new status, updated by whom, and reasons for changes.

6. Database Structure

6.1 ER Diagram



6.2 Relational Model

The relational model includes the following tables:

Brokers Table

- **Columns:** id, name, email, password
- **Description:** Stores broker credentials

Customers Table

- **Columns:** id, name, email, phone, address, date_of_birth, broker_id
- **Description:** Manages customer details..

Policies Table

- **Columns:** id, name, description, type, base_rate, coverage_amount, created_at, updated_at
- **Description:** Defines policy information.

PoliciesDetails Table

- **Columns:** id, policy_id, customer_id, broker_id, premium_amount, start_date, end_date, term_length, term_factor, status
- **Description:** Links policies to customers.

Claims Table

- **Columns:** id, policy_id, customer_id, broker_id, status, description, amount, created_at
- **Description:** Tracks customer claims.

ClaimHistory Table

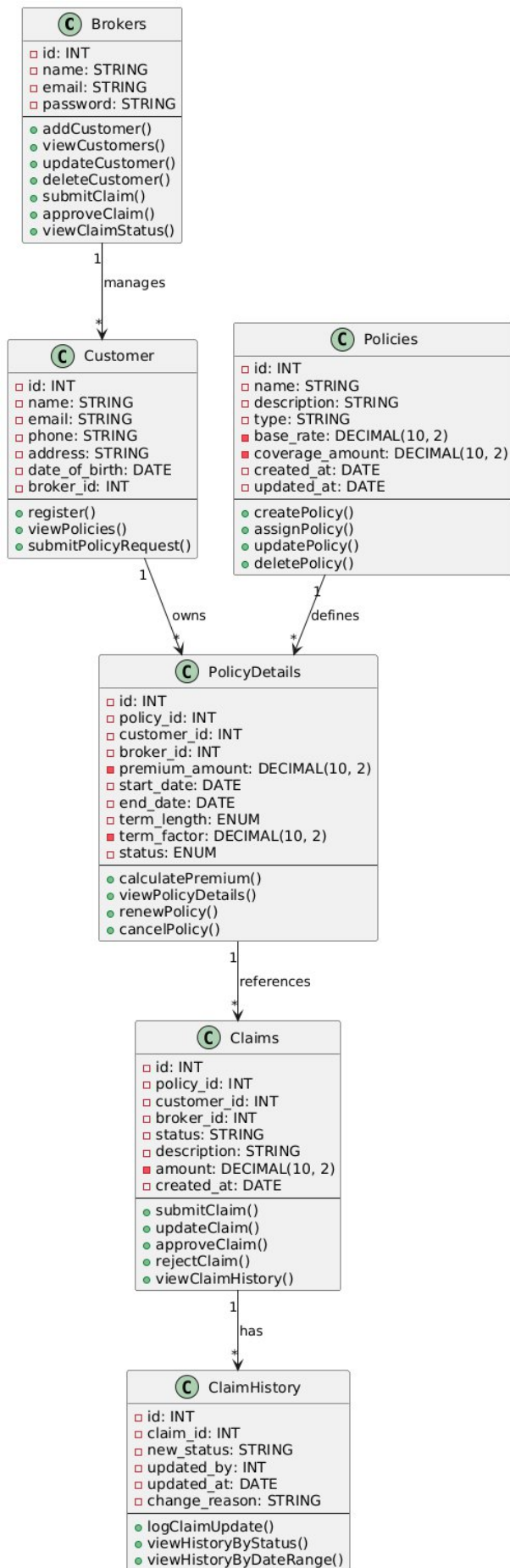
- **Columns:** application_id, job_id, candidate_id, application_date, status.
- **Description:** Logs claim updates.

7. Features

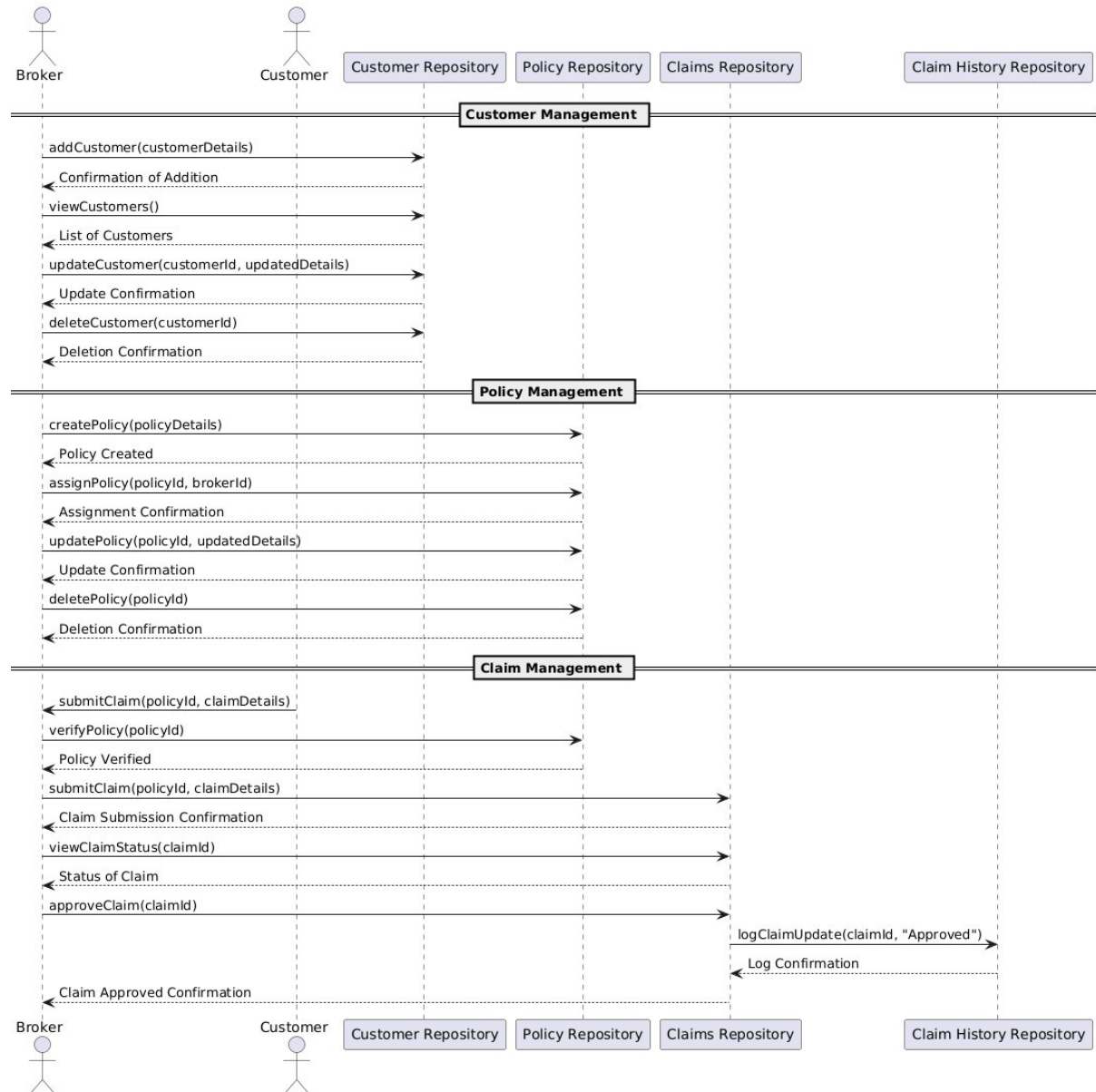
- ❖ **Customer Management:** CRUD operations for customer data.
- ❖ **Policy Management:** Managing policies and linking them to customers.
- ❖ **Claims Management:** Submitting, updating, approving/rejecting, and tracking claims.

8. UML Diagrams

8.1 Class Diagram

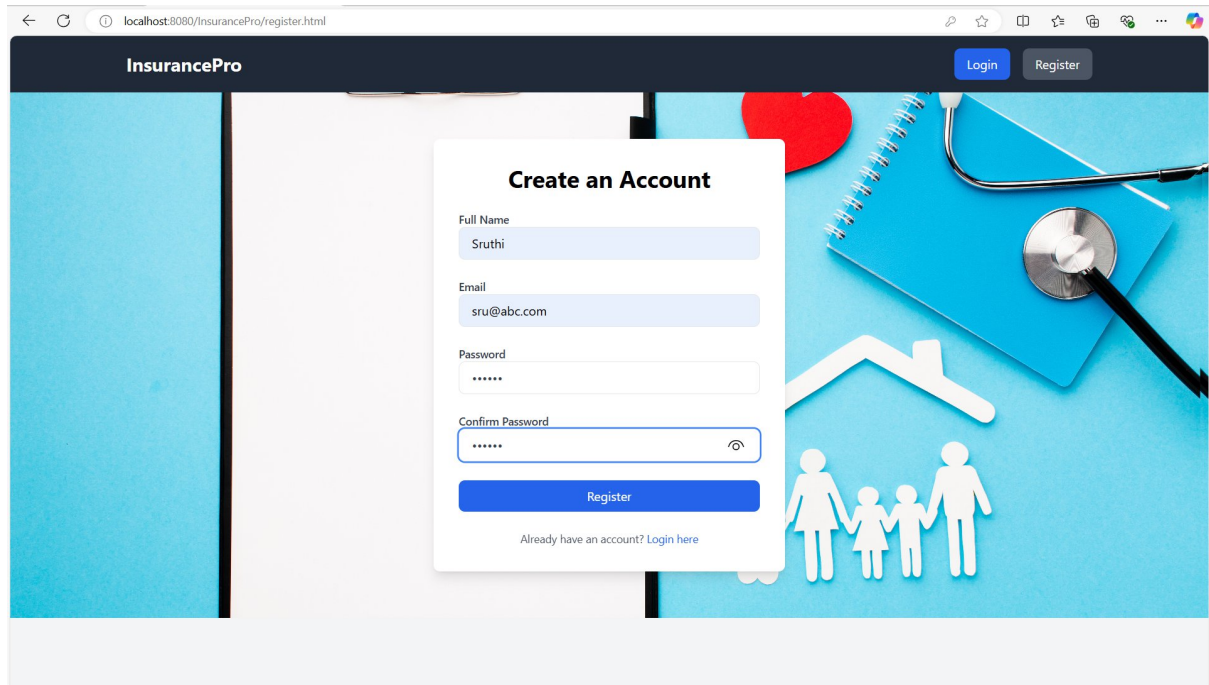


8.2 Sequence Diagram



9. Screenshots

Broker registration



A screenshot of a web browser displaying the 'InsurancePro' registration page. The browser's address bar shows 'localhost:8080/InsurancePro/register.html'. The page has a dark blue header with the 'InsurancePro' logo and 'Login' and 'Register' buttons. The background features a blue surface with a red heart, a stethoscope, a blue notebook, and white paper cutouts of a house and a family. A white modal form titled 'Create an Account' is centered on the page. It contains input fields for 'Full Name' (filled with 'Sruthi'), 'Email' (filled with 'sru@abc.com'), 'Password' (filled with '*****'), and 'Confirm Password' (filled with '*****'). A blue 'Register' button is at the bottom of the form, with a link 'Already have an account? Login here' below it.

InsurancePro

Login Register

Create an Account

Full Name
Sruthi

Email
sru@abc.com

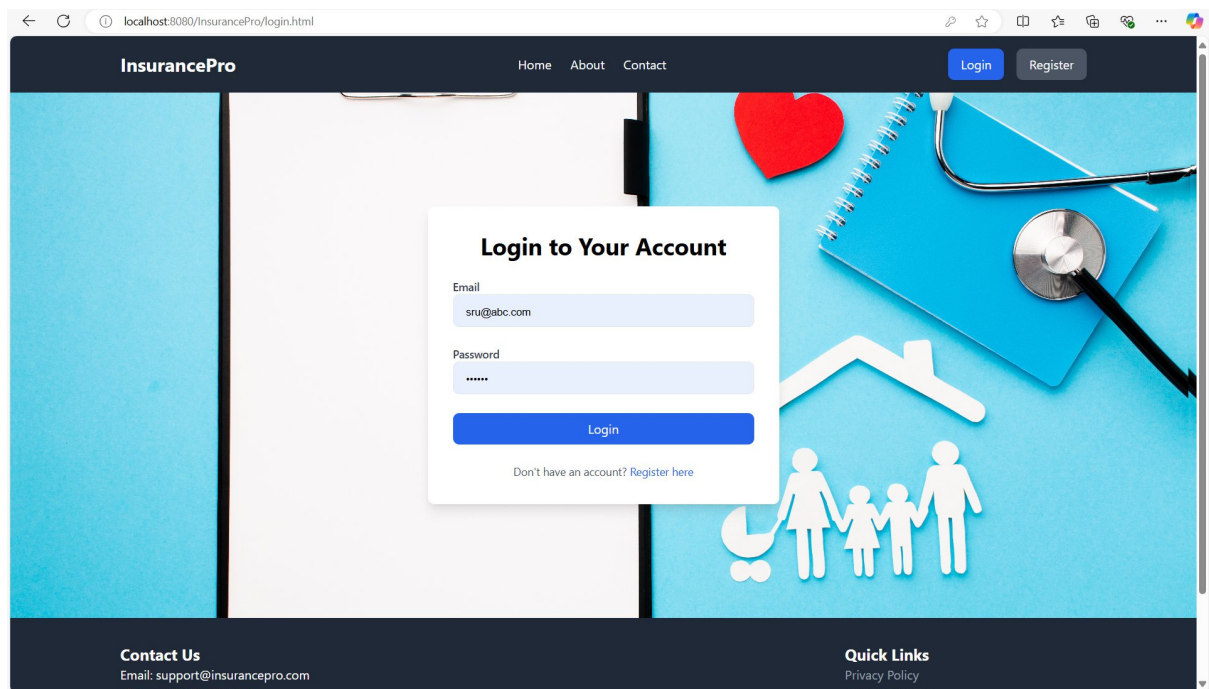
Password

Confirm Password

Register

Already have an account? [Login here](#)

Broker login



A screenshot of a web browser displaying the 'InsurancePro' login page. The browser's address bar shows 'localhost:8080/InsurancePro/login.html'. The page has a dark blue header with the 'InsurancePro' logo, 'Home', 'About', and 'Contact' links, and 'Login' and 'Register' buttons. The background features a blue surface with a red heart, a stethoscope, a blue notebook, and white paper cutouts of a house and a family. A white modal form titled 'Login to Your Account' is centered on the page. It contains input fields for 'Email' (filled with 'sru@abc.com') and 'Password' (filled with '*****'). A blue 'Login' button is at the bottom of the form, with a link 'Don't have an account? Register here' below it. The footer contains 'Contact Us' information (Email: support@insurancepro.com, Phone: +91 96 456 7890) and 'Quick Links' (Privacy Policy, Terms of Service).

InsurancePro

Home About Contact

Login Register

Login to Your Account

Email
sru@abc.com

Password

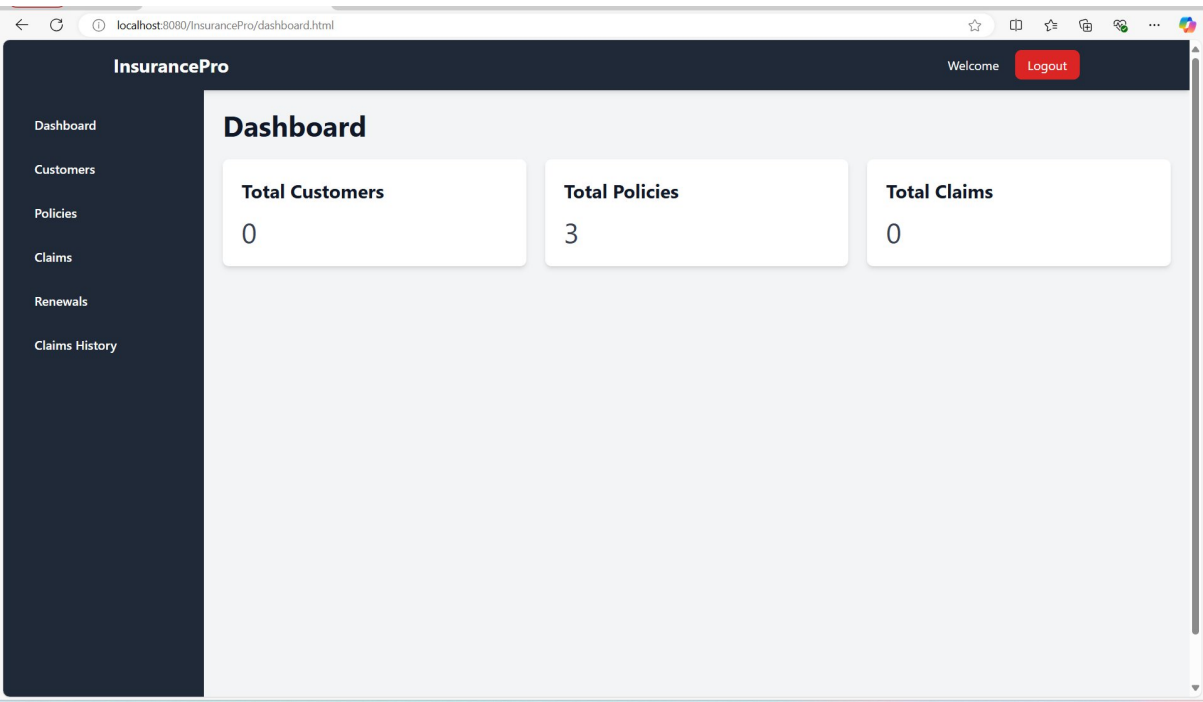
Login

Don't have an account? [Register here](#)

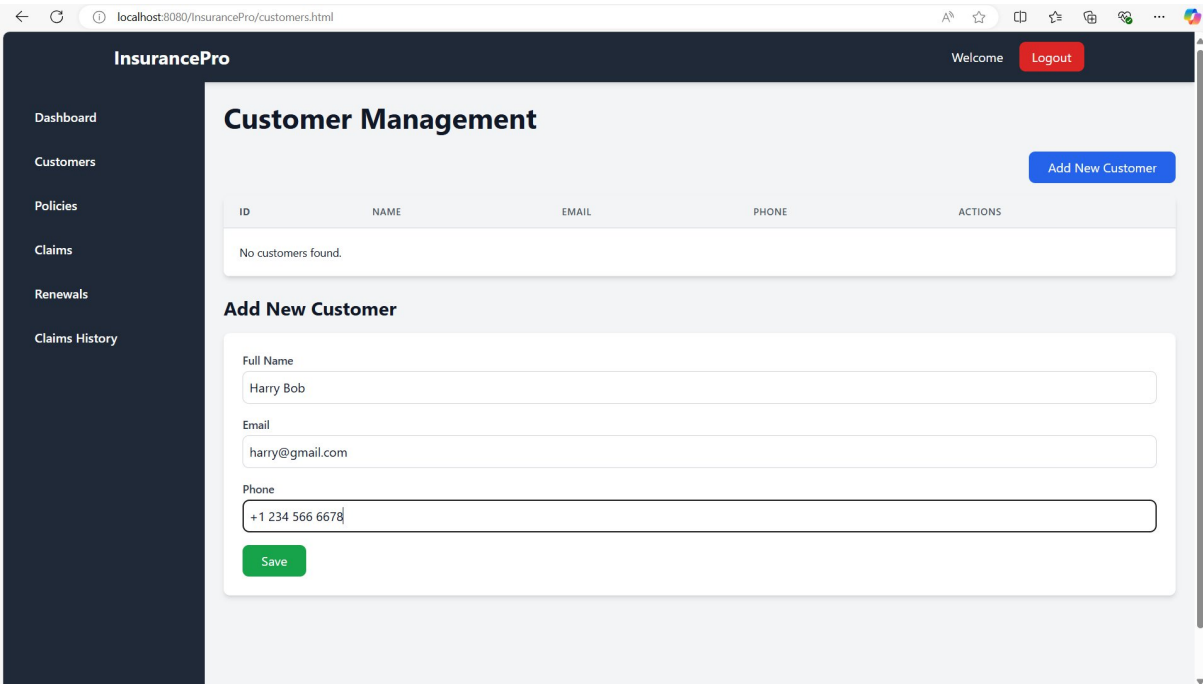
Contact Us
Email: support@insurancepro.com
Phone: +91 96 456 7890

Quick Links
[Privacy Policy](#)
[Terms of Service](#)

Broker Dashboard



Add new customer



Assign Policy

Claims

Renewals

Claims History

localhost:8080/InsurancePro/customers.html

Assign Policy to Customer

Policy Name

Premium Health Plan

Customer ID

1

Broker ID

1

Start Date

2024-12-08

End Date

2025-12-08

1 year

3 years

5 years

10 years

1 year

Save

1	Harry Bob	harry@gmail.com	+1 234 566 6678	View Edit Delete
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Calculated premium amount for the customer

InsurancePro

Welcome

Logout

Dashboard

Customers

Policies

Claims

Renewals

Claims History

Customer Management

Add New Customer

ID	NAME	EMAIL	PHONE	ACTIONS
1	Harry Bob	harry@gmail.com	+1 234 566 6678	View Edit Delete

Assigned Policies

Assign Policy

POLICY NAME	BROKER ID	PREMIUM AMOUNT	CLAIM	ACTION
Premium Health Plan	1	30000000	Submit Claim	Cancel Policy

Submit claim

Claims

Renewals

Claims History

1

Harry Bob

harry@gmail.com

+1 234 566 6678

View

Edit

Delete

Assigned Policies

Assign Policy

POLICY NAME	BROKER ID	PREMIUM AMOUNT	CLAIM	ACTION
Premium Health Plan	1	30000000	<div>Submit Claim</div>	<div>Cancel Policy</div>

Submit Claim

Policy Name

Premium Health Plan

Broker ID

1

Customer ID

1

Description

my first claim

Amount

450

Submit

Cancel

InsurancePro

Welcome

Logout

Dashboard

Customers

Policies

Claims

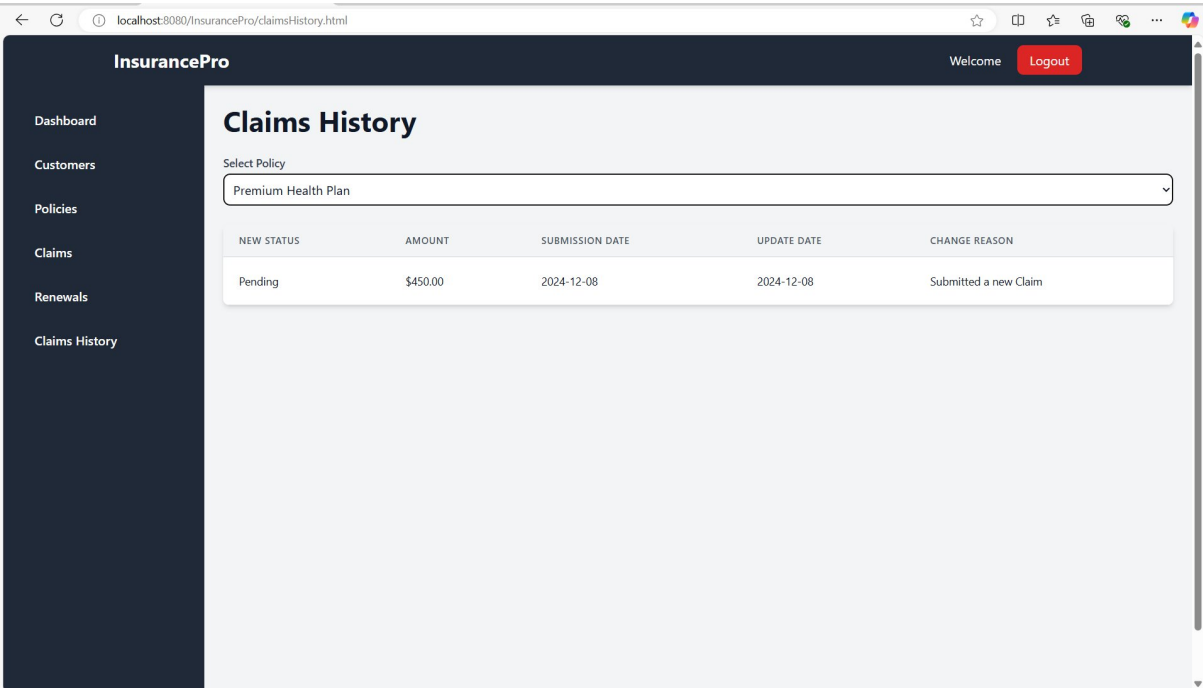
Renewals

Claims History

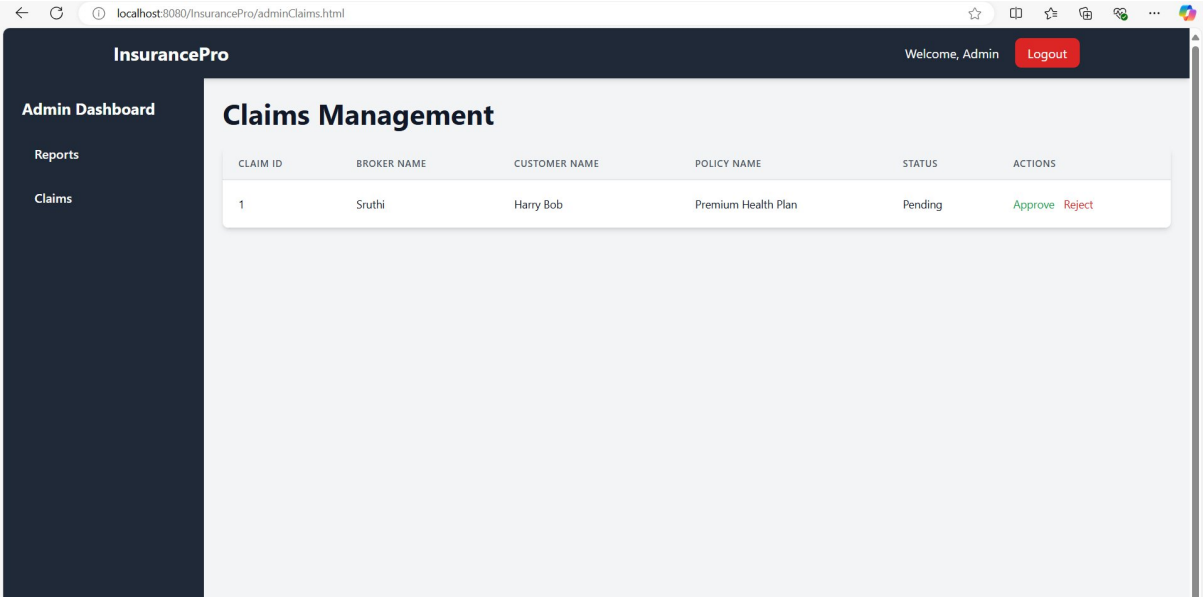
Claims Management

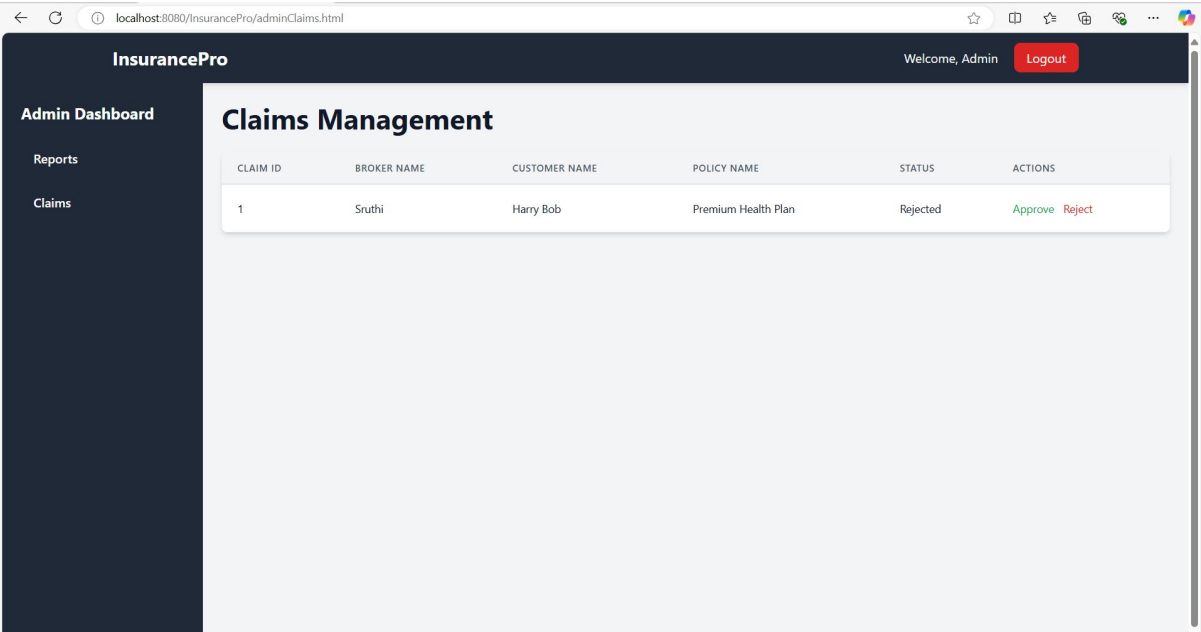
CLAIM NUMBER	CUSTOMER NAME	POLICY NAME	STATUS	ACTIONS
1	Harry Bob	Premium Health Plan	Pending	<div>Edit</div>

Claim history

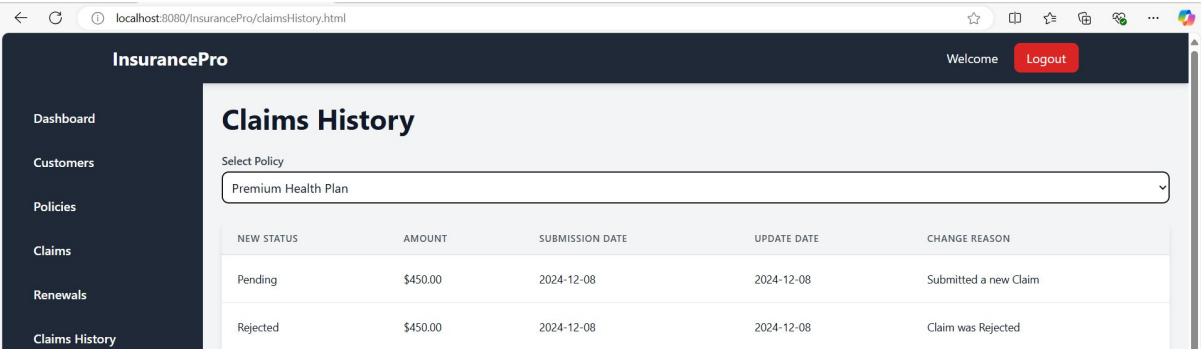


Admin claim approval/reject



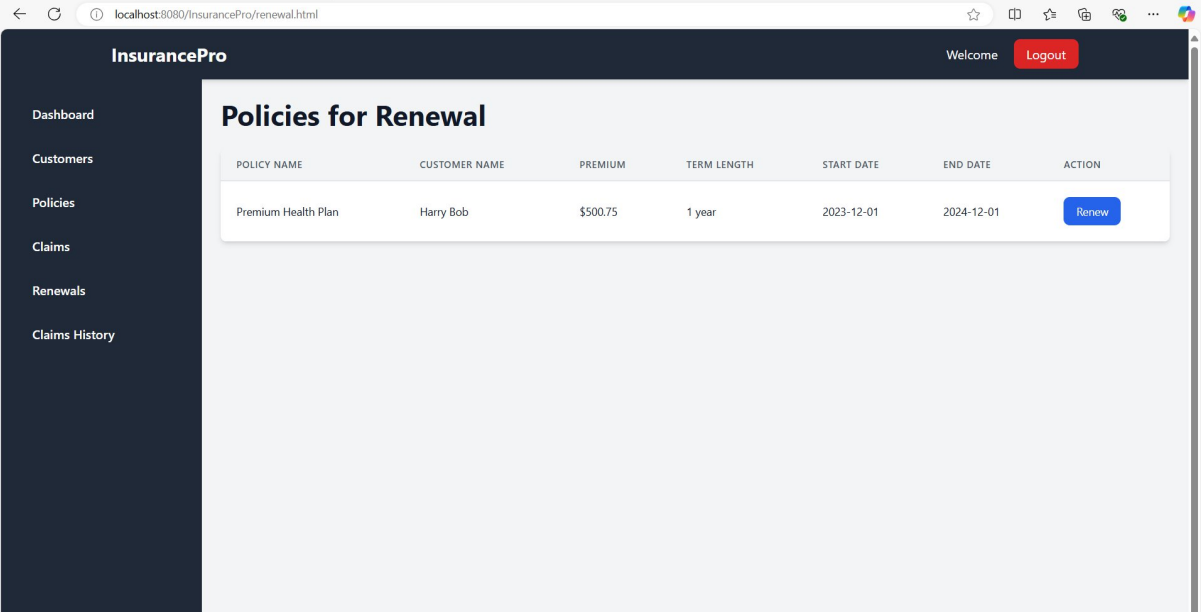


Claim history for broker



Policy Renewal

Expired policy



154
155
156 •
157

SELECT * FROM insurancepro.policy_details;

	policy_id	customer_id	broker_id	premium_amount	start_date	end_date	term_length	term_factor	status
	2	1	1	30000000	2024-12-08 00:00:00.000000	2034-12-08 00:00:00.000000	10 years	HULL	Active
	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

Result Grid

Form Editor

Field Types

localhost:8080/InsurancePro/renewal.html

localhost:8080 says
Policy renewed successfully!
OK

WelcomeLogout

InsurancePro

Dashboard
Customers
Policies
Claims
Renewals
Claims History

Policies for Renewal

POLICY NAME	CUSTOMER NAME	PREMIUM	TERM LENGTH	START DATE	END DATE	ACTION
Premium Health Plan	Harry Bob	\$500.75	1 year	2023-12-01	2024-12-01	Renew

Policy renewed for customer

localhost:8080/InsurancePro/customers.html

WelcomeLogout

InsurancePro

Dashboard
Customers
Policies
Claims
Renewals
Claims History

Customer Management

Add New Customer

ID	NAME	EMAIL	PHONE	ACTIONS
1	Harry Bob	harry@gmail.com	+1 234 566 6678	View Edit Delete

Assigned Policies

Assign Policy

POLICY NAME	BROKER ID	PREMIUM AMOUNT	CLAIM	ACTION
Premium Health Plan	1	30000000	Submit Claim	Cancel Policy
Premium Health Plan	1	20000000	Submit Claim	Cancel Policy

154
155
156 •
157

```
SELECT * FROM insurancepro.policy_details;
```

Result Grid

Filter Rows:

Edit: Export/Import: Wrap Cell Content:

	id	policy_id	customer_id	broker_id	premium_amount	start_date	end_date	term_length	term_factor	status
▶	1	2	1	1	30000000	2024-12-08 00:00:00.000000	2034-12-08 00:00:00.000000	10 years	NULL	Active
	2	2	1	1	20000000	2023-12-01 00:00:00.000000	2025-12-08 11:24:12.209000	1 year	1	Active
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

10. Conclusion

The **Insurance Broker System** provides a modern, scalable solution for managing insurance operations. By integrating advanced technologies and patterns, the project ensures data integrity, ease of use, and scalability.