NAAN MUDHALVAN PROJECT REPORT

SB8067- SALESFORCE DEVELOPER

“CRM APPLICATION FOR JEWEL MANAGEMENT“

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BONAFIDE CERTIFICATE

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Submitted for Viva-Voice Examination held on ___________________

INTERNAL EXAMINER **EXTERNAL EXAMINER**

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1. ABSTRACT

The **CRM Application for Jewel Management** is a software solution designed to help jewelry businesses manage their customers, sales, and inventory in an efficient and organized way. In the jewelry industry, keeping track of customer details, purchase history, and stock information is very important to maintain good customer relationships and business growth. This application provides an easy-to-use platform where jewelers can store and access all important business data in one place.

The system mainly focuses on **Customer Relationship Management (CRM)** by storing customer information, preferences, and communication history. It also includes features like inventory tracking, billing, sales records, and generating reports. With this system, jewelry owners can easily monitor available stock, check which items are selling fast, and plan their next purchase accordingly. It also helps in sending reminders for offers, payments, or special occasions to customers, improving customer satisfaction and loyalty.

The CRM application reduces manual work, saves time, and avoids errors that usually occur in paper-based management. It allows business owners to make better decisions based on accurate reports and data analysis. By integrating customer management and inventory in one system, the business can run smoothly and efficiently.

In conclusion, the **CRM Application for Jewel Management** provides a smart and reliable way to handle jewelry store operations. It improves communication with customers, increases sales opportunities, and helps the business grow steadily with the help of technology.

2. INTRODUCTION

In today's digital world, the jewelry business is not only about selling ornaments but also about building strong and lasting relationships with customers. Managing customer data, sales records, and inventory manually can be time-consuming and may lead to errors. To overcome these challenges, a **Customer Relationship Management (CRM) Application**

for Jewel Management is introduced to help jewelry businesses manage their operations more efficiently and effectively.

The CRM application acts as a centralized platform that connects all aspects of jewelry management — including customer information, product details, billing, and inventory control. It enables jewelers to store and manage customer data such as personal details, purchase history, preferences, and special dates like anniversaries or birthdays. This helps in providing personalized services and improving customer satisfaction.

Apart from customer management, the application also supports inventory tracking and sales management. It keeps real-time updates of available jewelry items like gold, silver, and diamond collections, helping owners monitor stock levels and avoid shortages or overstocking. The system also simplifies billing and report generation, making daily operations smoother and faster.

By adopting this CRM application, jewelry businesses can reduce paperwork, minimize human errors, and improve decision-making through data-driven insights. It helps in understanding customer buying patterns, creating marketing strategies, and offering loyalty programs.

In conclusion, the **CRM Application for Jewel Management** is an essential tool for modern jewelry businesses. It enhances productivity, strengthens customer relationships, and ensures better control over the overall business process, contributing to long-term growth and success.

3. OBJECTIVES

- To develop a user-friendly CRM system that helps jewelry businesses manage customers, sales, and inventory efficiently.

- To store and organize customer details, purchase history, and preferences for better customer relationship management.
- To track and monitor jewelry stock items such as gold, silver, and diamond collections in real time.
- To automate sales processes, including billing, invoicing, and payment tracking, reducing manual work.
- To generate detailed reports on sales, stock levels, and customer activities for business analysis and decision-making.
- To improve customer satisfaction by providing personalized offers, reminders, and loyalty programs.
- To ensure secure storage of customer and business data using proper authentication and access control.
- To reduce paperwork and human errors by digitalizing all jewelry management processes.
- To enhance communication between customers and the business through notifications and service reminders.
- To support business growth by integrating all jewelry management operations into a single digital platform.
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4. SYSTEM REQUIREMENTS

4.1 HARDWARE REQUIREMENTS:

Component	Specification (Minimum Requirement)
Processor	Intel Core i3 or above
RAM	4 GB or higher
Hard Disk	250 GB minimum
Monitor	15-inch LED/LCD Display
Keyboard & Mouse	Standard input devices
Internet Connection	Required for online access and data sync
Printer (Optional)	For generating bills and reports

4.2 SOFTWARE REQUIREMENTS:

Component	Specification / Description
Operating System	Windows 10 / 11, Linux, or macOS

Front-End	HTML, CSS, JavaScript (React.js or Angular) **Technology**
Back-End	Node.js / Python (Django or Flask) / PHP **Technology**
Database	MySQL / MongoDB
Server	XAMPP / WAMP / Node Server
IDE / Editor	Visual Studio Code / Sublime Text
Browser	Google Chrome / Microsoft Edge
Other Tools	Git, Postman (for API testing), Draw.io (for diagrams)

5. MODULES OF THE SYSTEM:

The **CRM Application for Jewel Management** is divided into several functional modules that work together to simplify jewelry business operations. Each module handles a specific part of the system to ensure smooth workflow, efficient management, and better customer service.

1. **Customer Management Module**

This module stores and manages all customer-related information such as name, contact details, address, preferences, and purchase history. It helps to maintain long-term relationships by tracking customer interactions and sending personalized offers or reminders.

2. Inventory Management Module

This module manages all jewelry items like gold, silver, diamond, and gemstone collections. It keeps track of stock quantity, design details, purity, and product availability, ensuring accurate and up-to-date inventory data.

3. Sales and Billing Module

This module handles all sales transactions, including generating invoices, managing discounts, and recording payments. It provides quick billing options and ensures error-free and transparent sales processing.

4. Employee Management Module

This module stores information about employees such as their roles, responsibilities, and work performance. It helps in tracking daily activities and ensuring accountability within the store.

5. Reports and Analytics Module

This module generates various reports like daily sales, stock summaries, and customer purchase trends. It provides useful insights for business decision-making and helps identify the most profitable products.

6. Notification and Reminder Module

This module sends alerts and reminders for customer birthdays, anniversaries, new offers, or pending payments. It helps in improving customer engagement and maintaining consistent communication.

6. TECHNOLOGIES USED

1. HTML (HyperText Markup Language)

- HTML is used to design the structure and layout of the web pages. It defines the content and basic elements of the application interface such as forms, buttons, and tables.

2. CSS (Cascading Style Sheets)

- CSS is used to style and format the web pages, making the interface more attractive and user-friendly. It manages colors, fonts, and overall visual appearance of the CRM application.

3. JavaScript

- JavaScript adds interactivity and dynamic features to the web pages. It handles client-side validations and improves the responsiveness of the application.

4. React.js (Front-End Framework)

- React.js is used for building the front-end interface efficiently with reusable components. It provides fast rendering and a smooth user experience for the jewelry management system.

5. Node.js (Back-End Technology)

- Node.js is used on the server side to handle all backend logic, user requests, and data exchange. It provides a fast, scalable, and event-driven environment for the application.

6. Express.js (Server Framework)

- Express.js is used with Node.js to manage APIs and server-side routing. It helps connect the front-end with the database smoothly.

7. MySQL (Database Management System)

- MySQL is used to store all the data securely, including customer details, product inventory, and transaction records. It ensures efficient data retrieval and management.

8. Visual Studio Code (Development Tool)

• VS Code is used as the main code editor to write, debug, and test the application code. It provides an integrated environment for development.

9. Git and GitHub (Version Control)

• Git is used for version control, and GitHub is used for storing and managing the project code repository. It helps in tracking changes and team collaboration.

7. SYSTEM DESIGN

7.1 Architecture Diagram

The architecture of the CRM system follows a **three-tier architecture**:

1. **Presentation Layer (Front-End):**
   This layer is responsible for user interaction. It includes web pages built using HTML, CSS, JavaScript, and React.js to provide a user-friendly interface for both customers and administrators.

2. **Application Layer (Back-End):**

   This layer handles the main logic of the system. Node.js with Express.js processes user requests, validates data, and communicates with the database.

3. **Database Layer:**
   The MySQL database stores all system data such as customer details, inventory information, sales records, and employee data.

This three-layer structure ensures smooth communication between the user and the system while keeping data secure and easily manageable.

7.2 Entity Relationship (ER) Diagram

The ER Diagram represents the relationship between various entities in the system.
Main entities include:

- **Customer** – Stores customer ID, name, contact, and preferences.
- **Product** – Contains jewelry details such as product ID, type, weight, purity, and price.
- **Sales** – Records transaction details between customers and the store.
- **Employee** – Manages employee roles and responsibilities.
- **Report** – Maintains data for analysis and business performance.

These entities are linked through key relationships to ensure data integrity and smooth operations.

7.3 Data Flow Diagram (DFD)

The DFD shows how data moves through the system:

- **Level 0 (Context Diagram):** Shows the overall system interaction with external entities such as Admin, Customer, and Database.

- **Level 1:** Describes main processes like managing customers, inventory, sales, and generating reports.

- **Level 2:** Explains detailed sub-processes such as adding new customers, updating stock, generating bills, and analyzing reports.

8. WORKFLOW DESCRIPTION

The **CRM Application for Jewel Management** follows a simple and efficient workflow that connects all major processes such as customer management, inventory control, billing, and report generation. The workflow ensures that all operations are automated, accurate, and synchronized across different modules.

When the application starts, the admin logs into the system using valid credentials. Once logged in, the admin can access various modules such as Customer Management, Inventory Management, Sales, and Reports.

Customers are registered with their personal details and purchase history. When a sale occurs, the system automatically updates the inventory, generates the bill, and stores the transaction data. Reports and analytics are generated periodically to help in decision-making. Notifications and reminders are sent to customers for offers, due payments, or special occasions, enhancing customer engagement.

Workflow Steps:

Admin/Employee logs into the system.

Customer details are added or updated.

Inventory items are viewed, added, or modified.

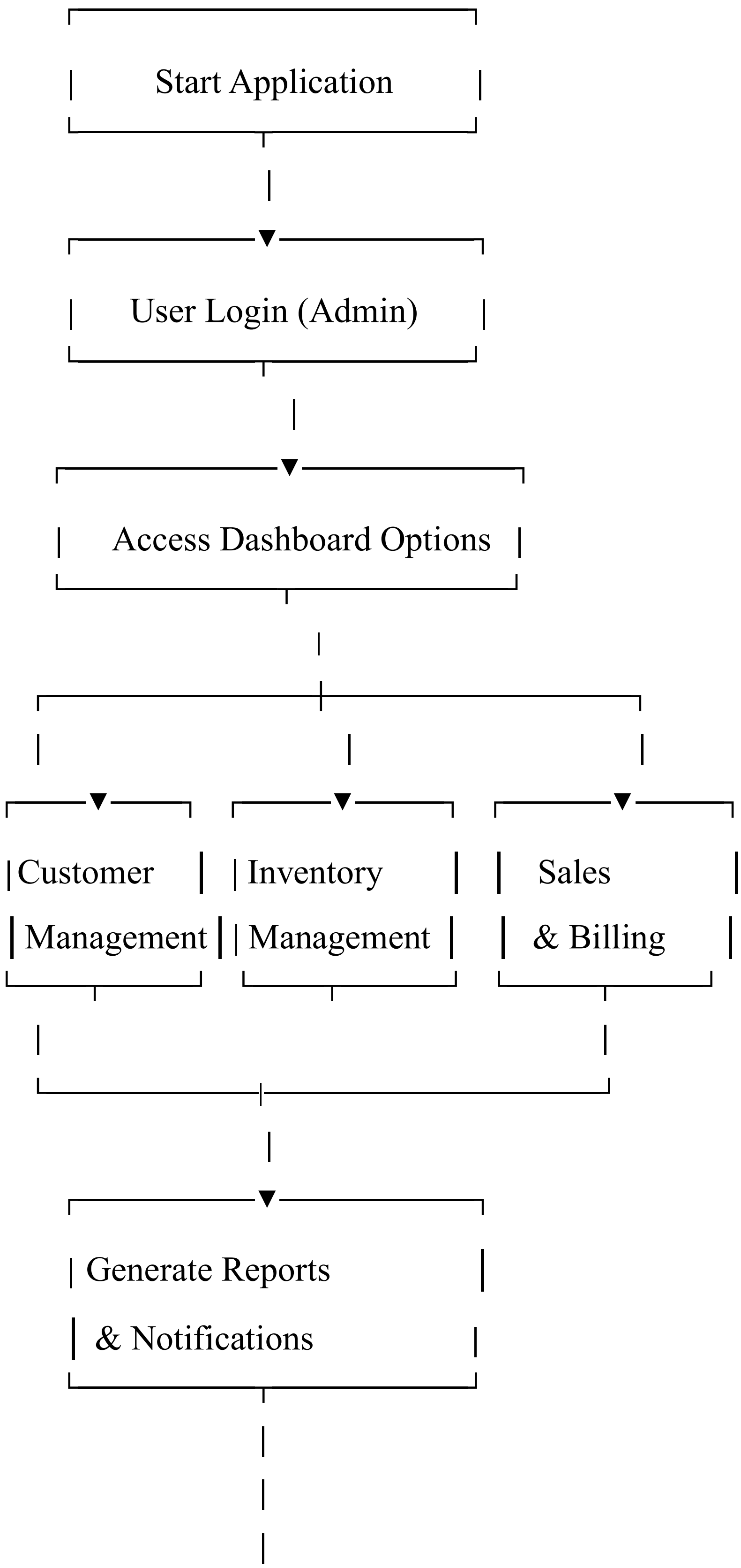
Customer selects jewelry for purchase.

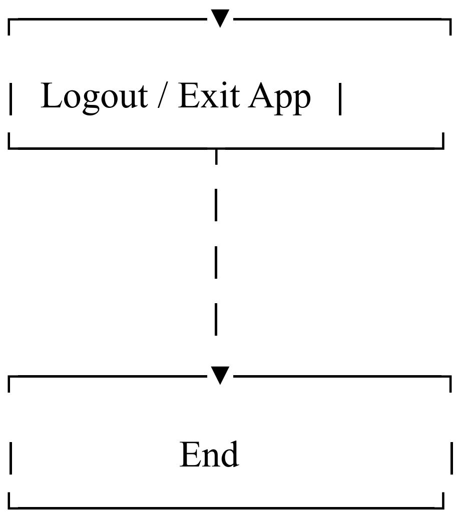
Billing and invoice are generated automatically.

Inventory quantity is updated after each sale.

Reports and analytics are generated.

Notifications or offers are sent to customers.


Start Application
User Login (Admin)
Access Dashboard Options
Customer Management
Inventory Management
Sales & Billing
Generate Reports & Notifications


Logout / Exit App
End

9. IMPLEMENTED STEPS

1.Fields & Relationships:

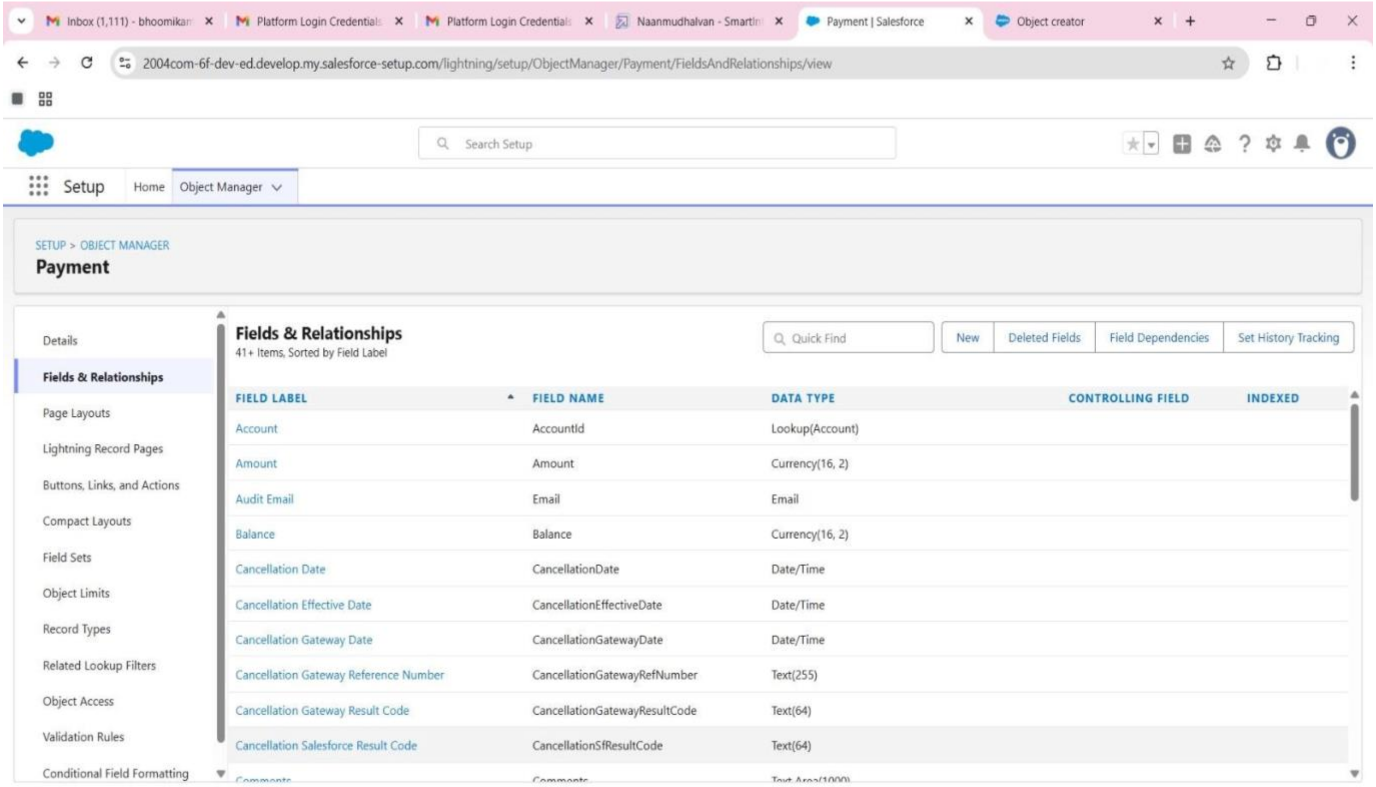
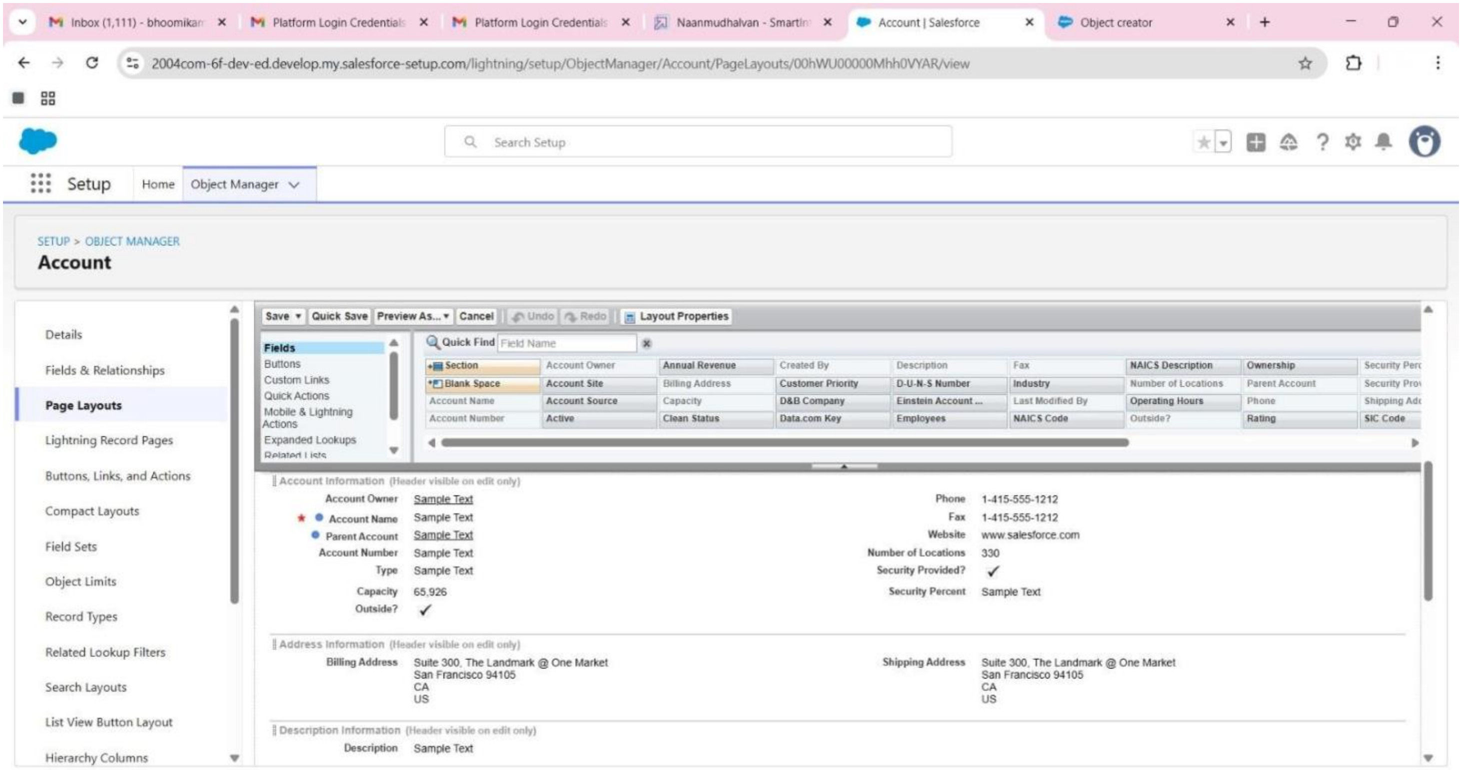


Fig:1.1 Field & Relationship

2.Page Layout:



3. Object Manager:

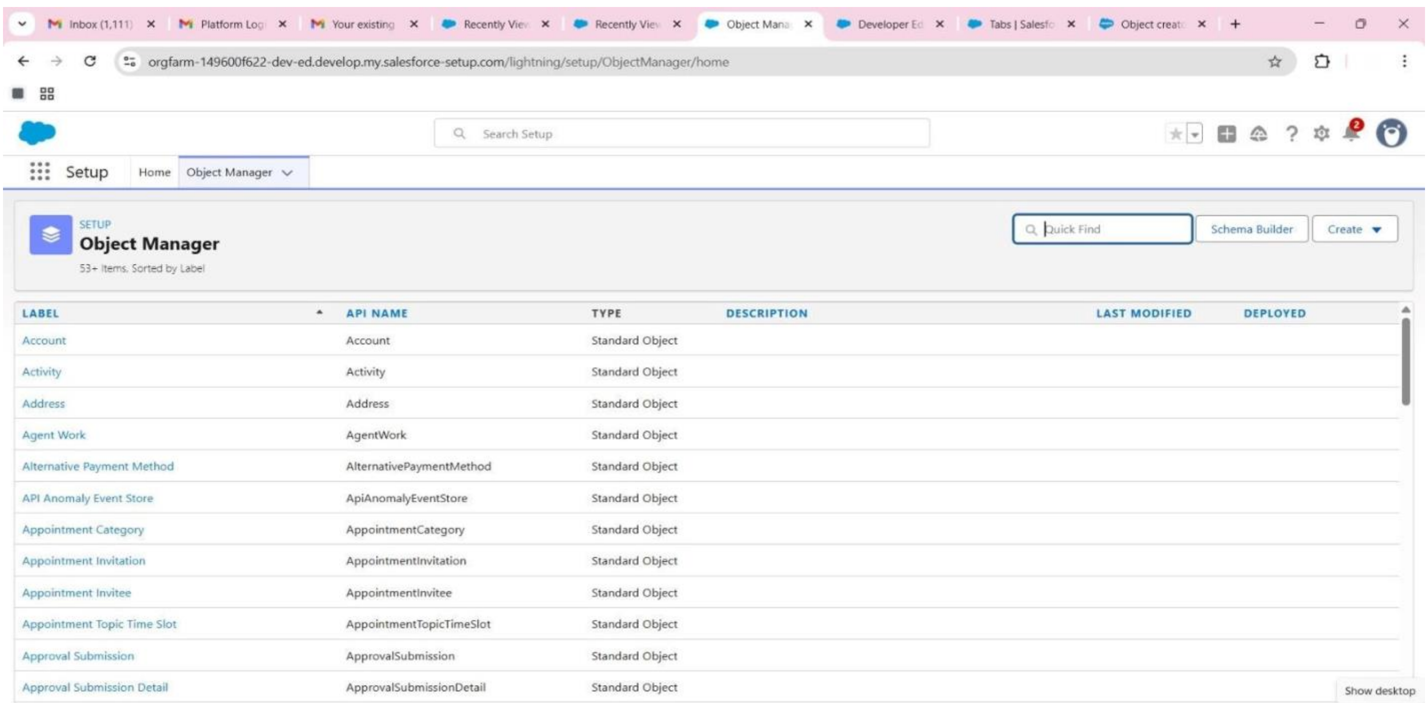


Fig :3.1 Object manager

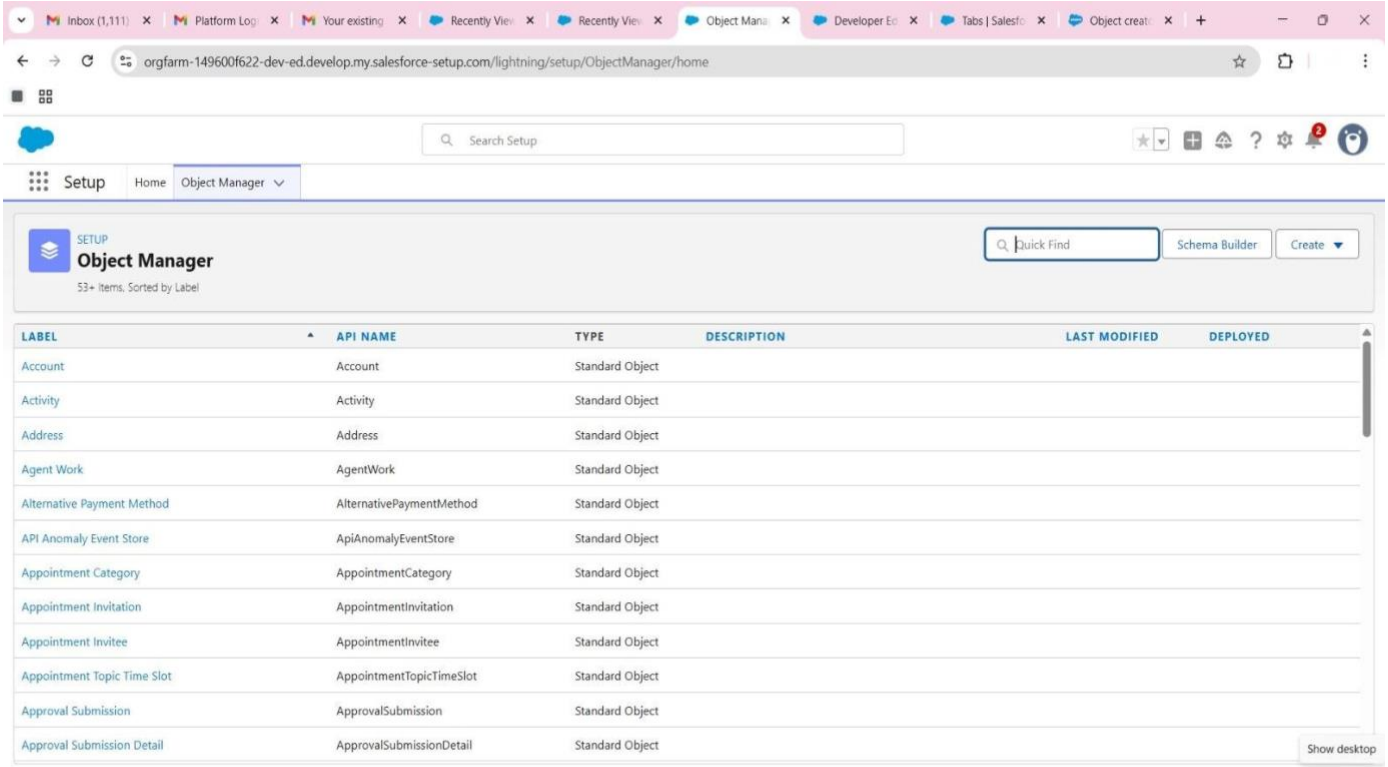
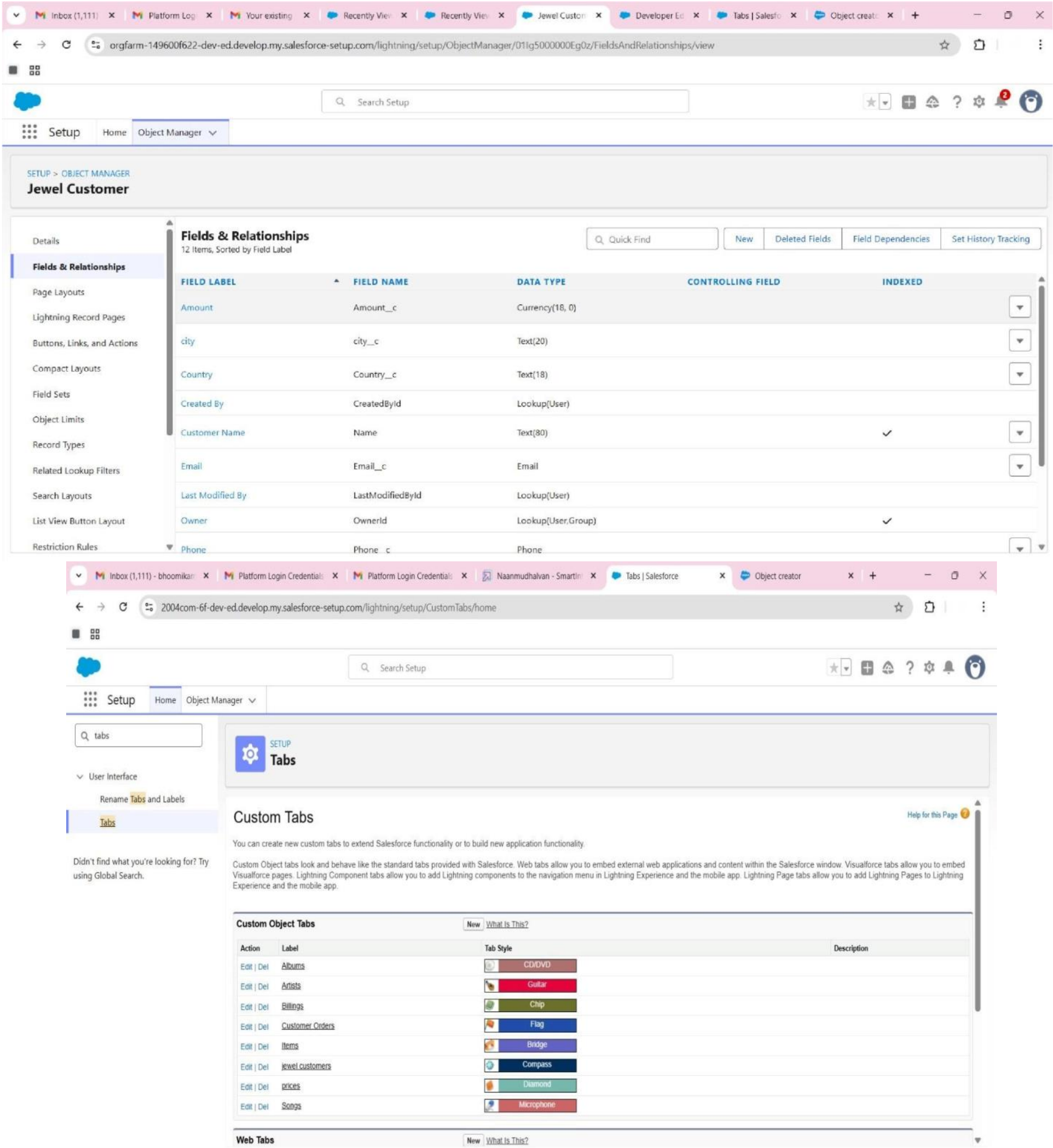


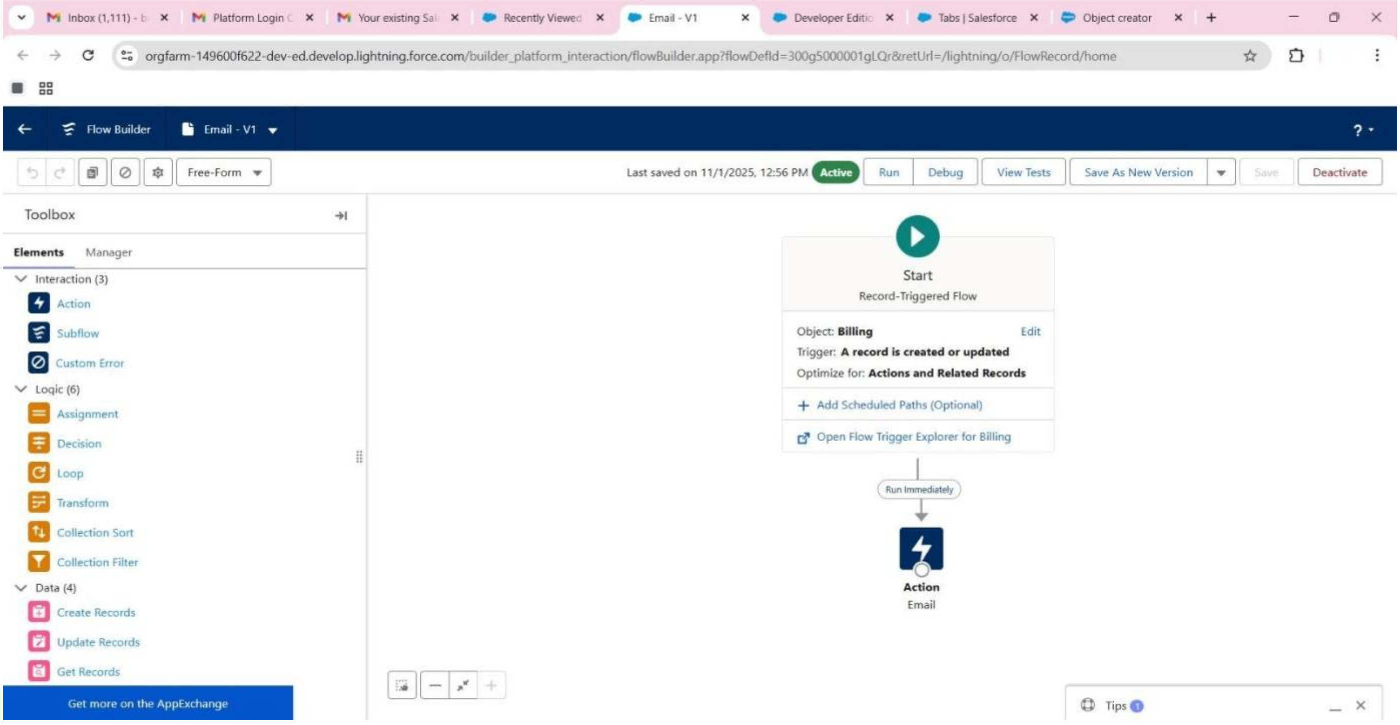
Fig :3.2 Creation of API NAME and DESCRIPTION

4. Tabs:

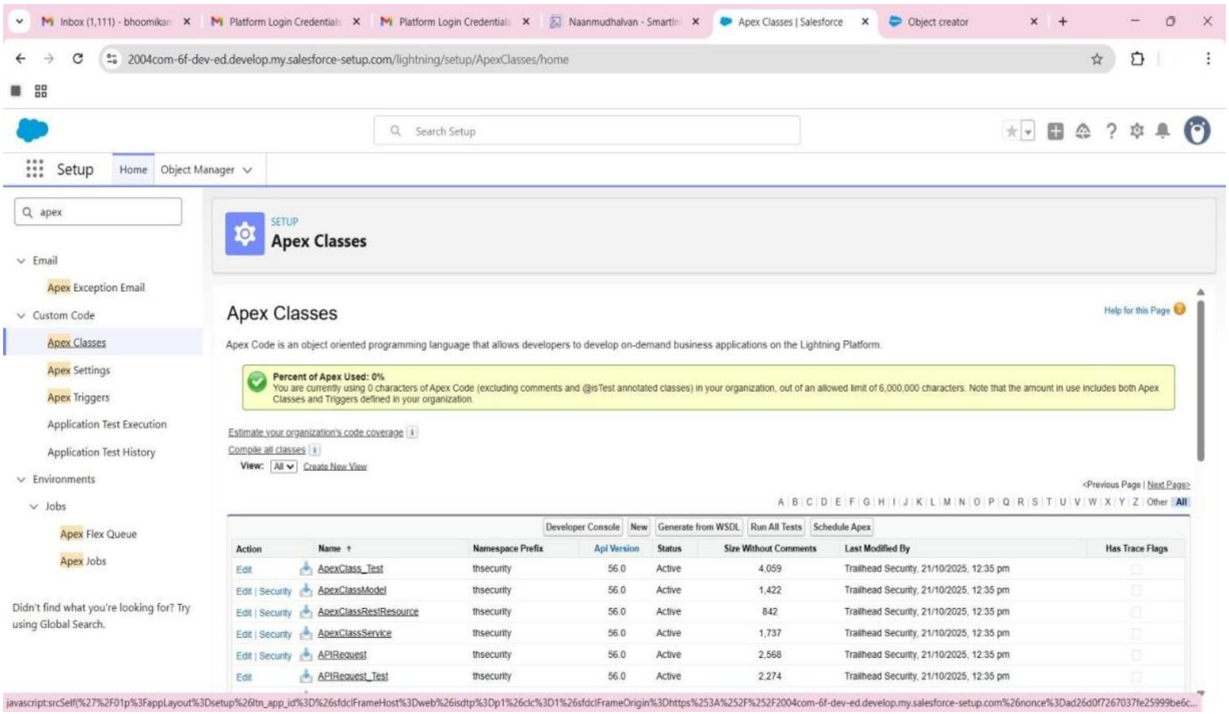
Fig :4.1 Jewel Customer Tab



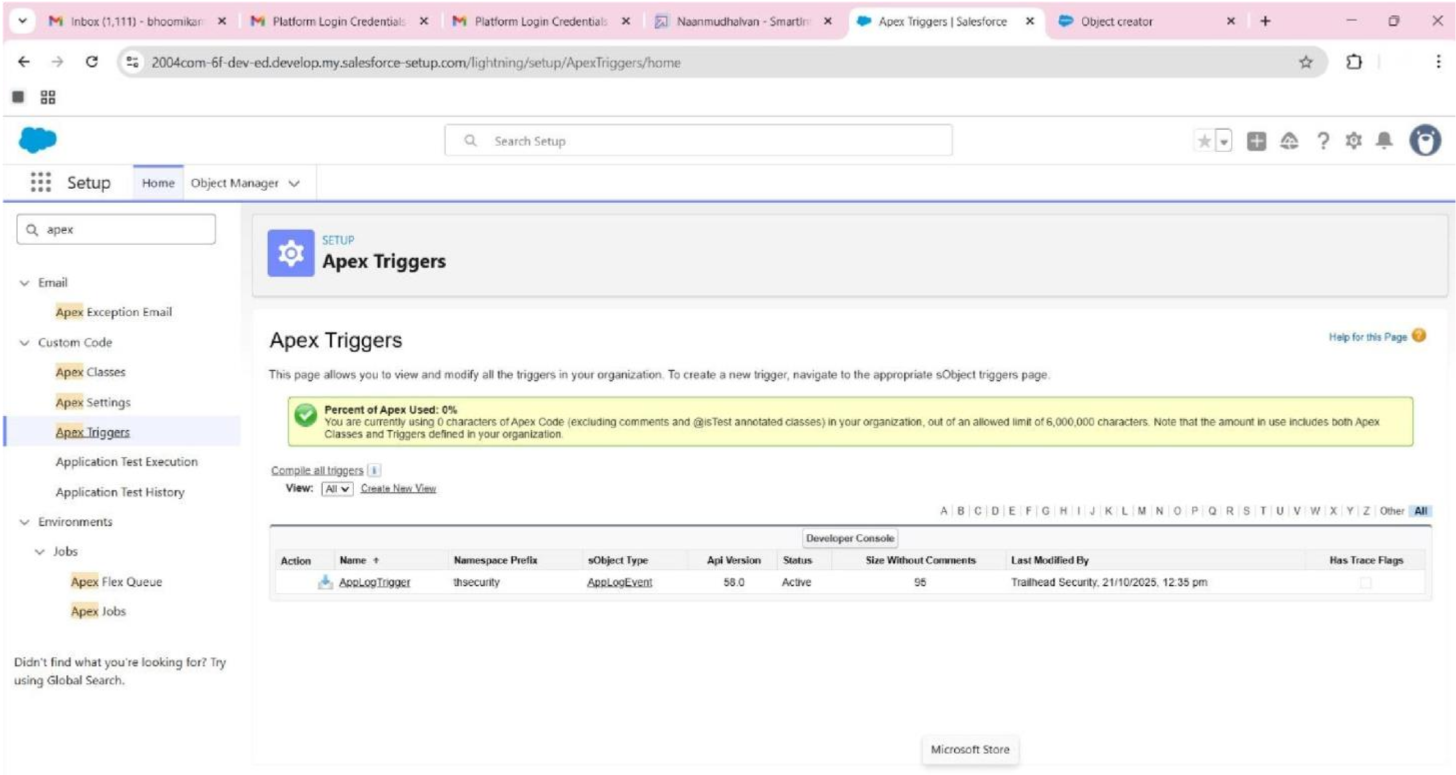
5. Tool box:

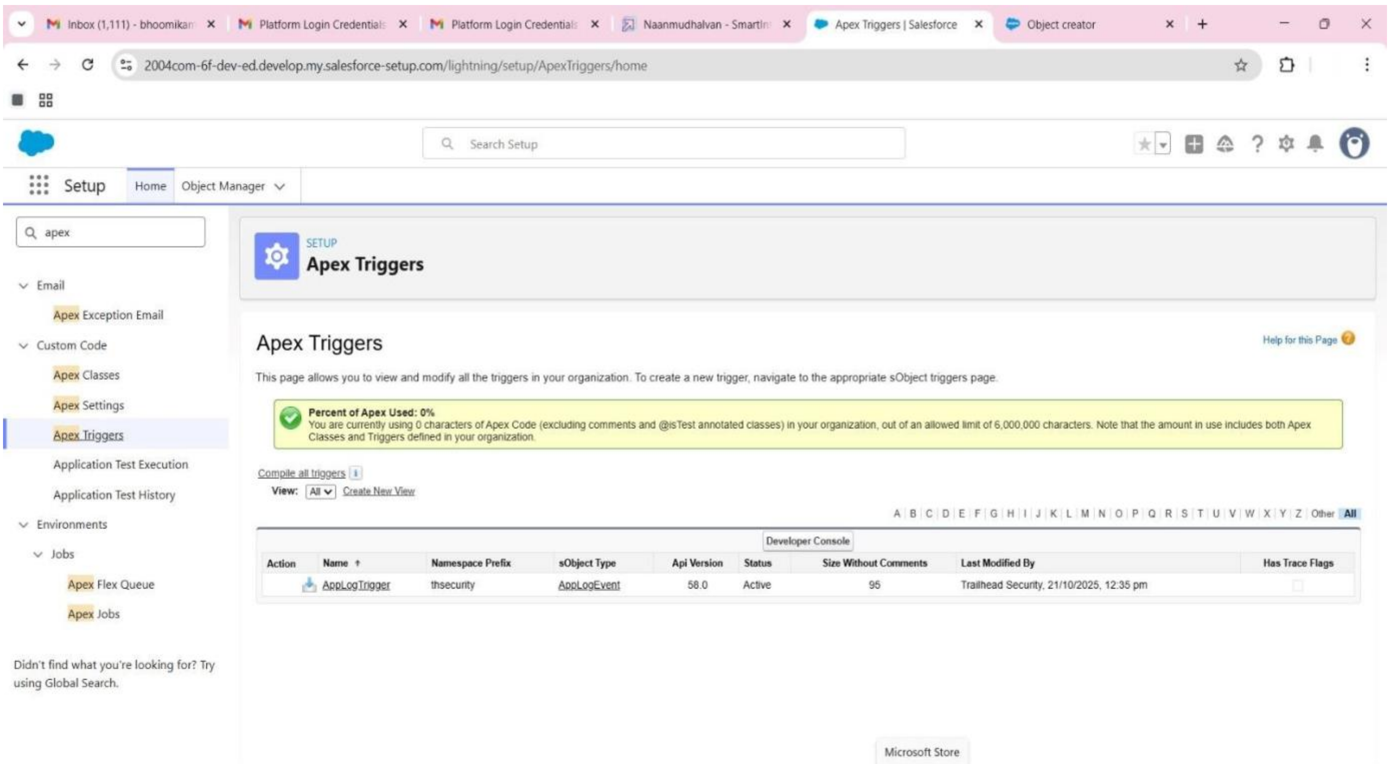


6. Apex classes:

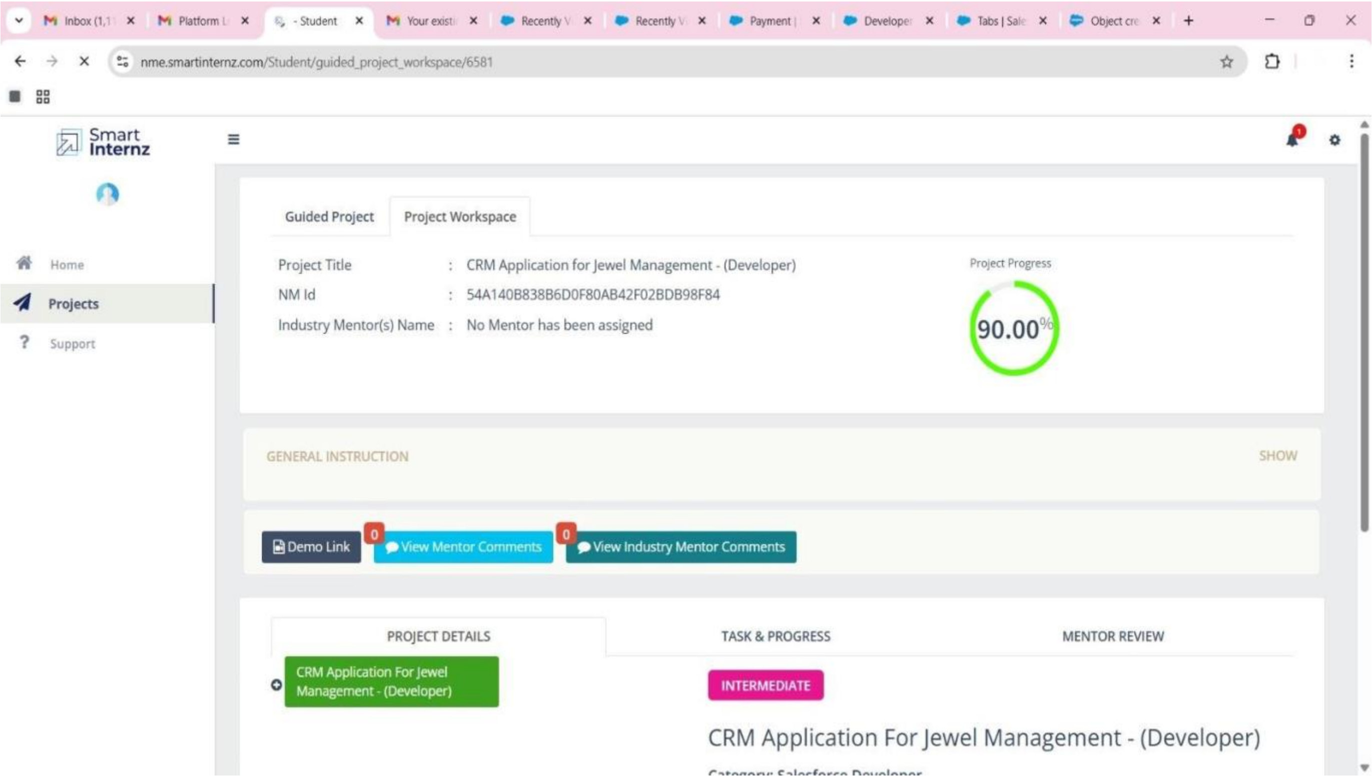


7. Apex Triggers:





8. Project Completion:



10. EXPECTED OUTCOMES

The main goal of the **CRM Application for Jewel Management** is to provide an efficient, reliable, and user-friendly platform that simplifies jewelry business operations and strengthens customer relationships. The following are the expected outcomes of this project:

1. Centralized Customer Data

All customer details such as personal information, purchase history, and preferences are stored in one place, making it easy to access and manage customer records.

2. Improved Customer Relationship

The system helps jewelers send personalized offers, notifications, and reminders, leading to improved customer satisfaction and loyalty.

3. Automated Inventory Management

The inventory module automatically updates product quantities after each sale, helping store owners monitor stock levels and avoid shortages or overstocking.

4. Faster and Accurate Billing

The application generates invoices instantly during sales, ensuring quick, accurate, and error-free billing operations.

5. Data Security and Backup

All data is securely stored in the database with restricted access. Regular data backups help prevent data loss and ensure reliability.

6. Business Reports and Analytics

The system generates detailed reports on sales, products, and customers, enabling better decision-making and business planning.

7. Reduced Manual Work

By digitalizing the management process, the system reduces paperwork, human errors, and repetitive manual tasks.

8. Enhanced Productivity

The automation of daily operations helps employees and store owners save time and focus more on improving customer service and sales growth.

9. Multi-User Access

Multiple employees or admins can use the system at the same time with proper authentication, improving workflow efficiency.

10. Scalable and Upgradable System

The CRM system is designed to be flexible, allowing future updates and integration with other digital platforms as the business grows.

11. ADVANTAGES

The **CRM Application for Jewel Management** offers several advantages that make jewelry business operations more efficient and reliable. One of the major benefits of this system is the ability to manage all business activities digitally in a single platform. It helps jewelry store owners easily handle customer information, sales transactions, and inventory without relying on manual records or paperwork. This not only saves time but also reduces human errors that commonly occur in traditional management systems.

Another key advantage of the CRM system is its ability to maintain strong and long-lasting customer relationships. By storing customer purchase history, preferences, and special dates, the system allows jewelers to send personalized offers, greetings, and reminders. This feature enhances customer satisfaction and helps in building loyalty over time. The CRM application also enables faster and more accurate billing, ensuring transparency and convenience during sales transactions.

The system provides real-time updates on jewelry inventory, helping business owners track stock levels efficiently. Reports and analytics generated by the system assist in understanding sales performance, popular products, and customer trends. These insights allow business owners to make informed decisions that lead to higher profitability and better marketing strategies.

Furthermore, since all the data is securely stored in a centralized database, it ensures data safety and easy access when needed. The application can also be scaled up with additional features in the future, making it a long-term and cost-effective solution. Overall, the CRM Application for Jewel Management simplifies complex business processes, improves customer engagement, and enhances the overall growth and efficiency of the jewelry business.

12. FUTURE ENHANCEMENT

The **CRM Application for Jewel Management** is designed with flexibility and scalability in mind, allowing it to evolve with future business needs and technological advancements. Although the current system efficiently manages customers, inventory, and sales, there are several features that can be added to further enhance its performance and usability in the future.

One of the planned enhancements is the integration of **cloud storage** to enable remote access and data synchronization across multiple devices. This will allow jewelry owners to manage their business from anywhere, anytime. Another improvement could include the implementation of **mobile applications** for Android and iOS platforms, making it more convenient for both customers and employees to access the system on the go.

The system can also be extended with **AI-based analytics** to provide advanced insights into customer behavior, sales predictions, and personalized marketing suggestions.
Integrating **chatbots** or virtual assistants could help in handling customer queries instantly, improving service quality and communication. In addition, a **barcode or QR code system** can be introduced for faster product identification, billing, and stock tracking.

Security enhancements such as **two-factor authentication** and **data encryption** can be added to further protect sensitive business and customer data. Integration with **online**

payment gateways and **e-commerce platforms** can also expand the business reach, allowing customers to browse and purchase jewelry online.

Overall, these future enhancements aim to transform the CRM Application into a more intelligent, secure, and customer-focused digital platform, ensuring that jewelry businesses remain competitive and technologically advanced in the coming years.

13. CONCLUSION

The **CRM Application for Jewel Management** provides a comprehensive and efficient solution for managing the various operations of a jewelry business. It helps in organizing and automating essential functions such as customer relationship management, inventory tracking, billing, and report generation. By replacing traditional manual methods with a digital system, the application ensures accuracy, saves time, and enhances productivity within the organization.

This system not only simplifies business operations but also focuses on building strong and lasting relationships with customers. By maintaining detailed customer profiles, purchase history, and preferences, the CRM allows jewelers to offer personalized services and targeted promotions, which in turn improves customer satisfaction and loyalty. The inclusion of real-time data management and reporting features further enables business owners to make informed decisions and plan future strategies effectively.

Moreover, the system's modular design and user-friendly interface make it easy to use for both administrators and employees. The use of modern technologies such as React.js, Node.js, and MySQL ensures high performance, data security, and scalability for future growth.

In conclusion, the **CRM Application for Jewel Management** is a powerful and practical tool that supports the digital transformation of jewelry businesses. It bridges the gap between technology and customer service, leading to improved efficiency, better decision-making, and long-term business success.

14. REFERENCES

1. Salesforce Developer Guide:https://developer.salesforce.com/docs

2.Salesforce Trailhead (CRM Learning Platform) — https://trailhead.salesforce.com

3.CRM Best Practices — Salesforce Admin Guide —
https://admin.salesforce.com/blog

4.Jewellery Management System (CRM Concepts and Case Study) —
https://www.researchgate.net/publication/366530437_Jewellery_Management_System

5.CRM in Jewellery Retail (Business Model Overview) —
https://www.linkedin.com/pulse/how-crm-changing-jewellery-business-india/

6.Database Design for Jewellery Inventory (DBMS Concepts) —
https://www.geeksforgeeks.org/database-design-for-online-jewellery-store/

7.**CRM Software Development Guide — GeeksforGeeks** —
https://www.geeksforgeeks.org/crm-software-development-guide