

CRM APPLICATION FOR JEWEL MANAGEMENT

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1. INTRODUCTION

1.1 Project Overview

The Jewel Management CRM is a Salesforce-based application designed to streamline the processes of managing jewelry business operations. It handles customer management, item tracking, order processing, and billing with automation features such as flows, triggers, validation rules, reports, and dashboards. The system provides jewelers with an efficient way to store data, track sales, and generate insights while ensuring secure role-based access.



1.2 Purpose

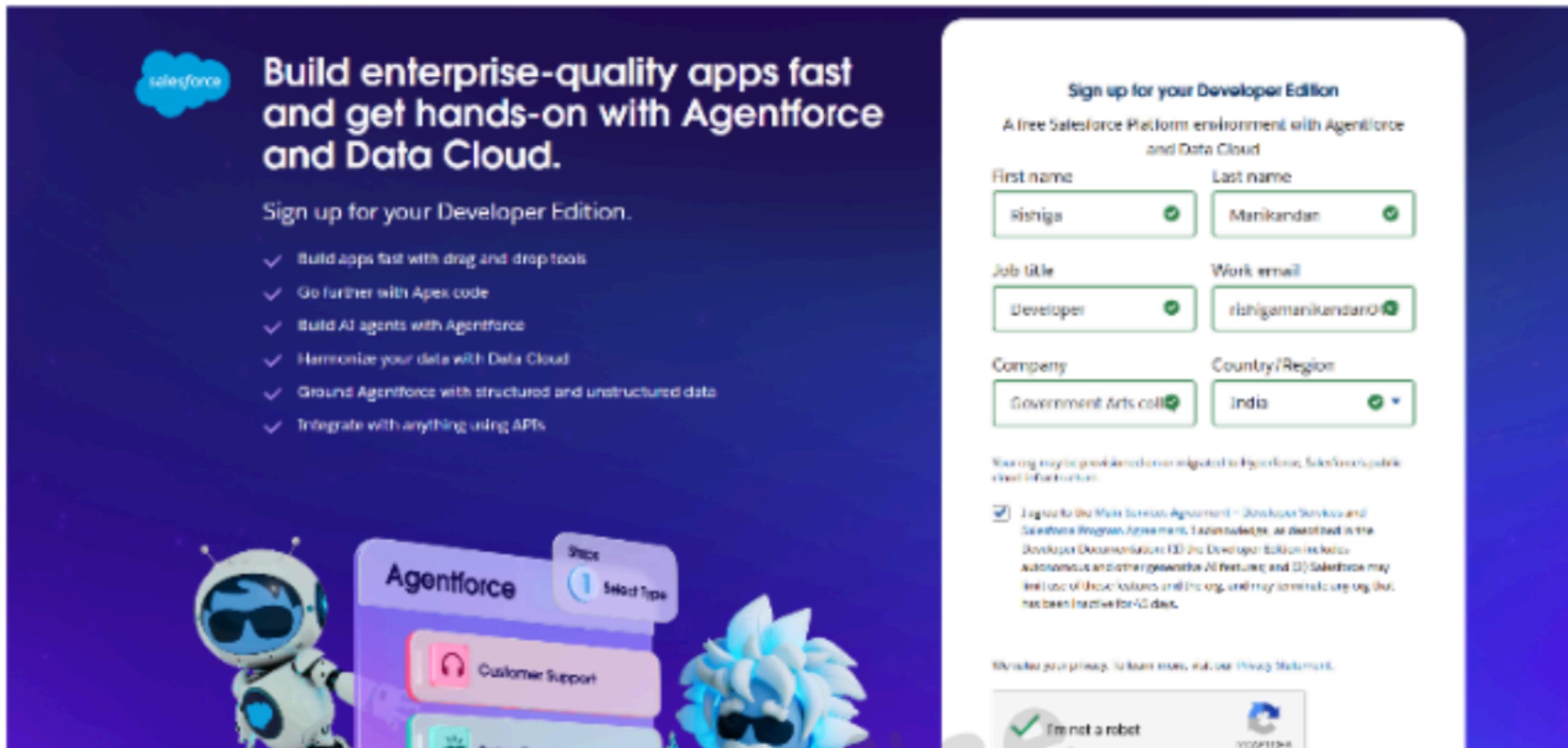
The main objective of the project is to enable jewelry businesses to efficiently manage customers, inventory, and transactions within Salesforce. It reduces manual errors, improves accuracy, and provides automation for day-to-day processes. With dashboards and reports, the CRM also helps in making data-driven business decisions and ensures better customer satisfaction.

2. Development Phase

2.1 Salesforce Setup

Created Developer Account and activated it.

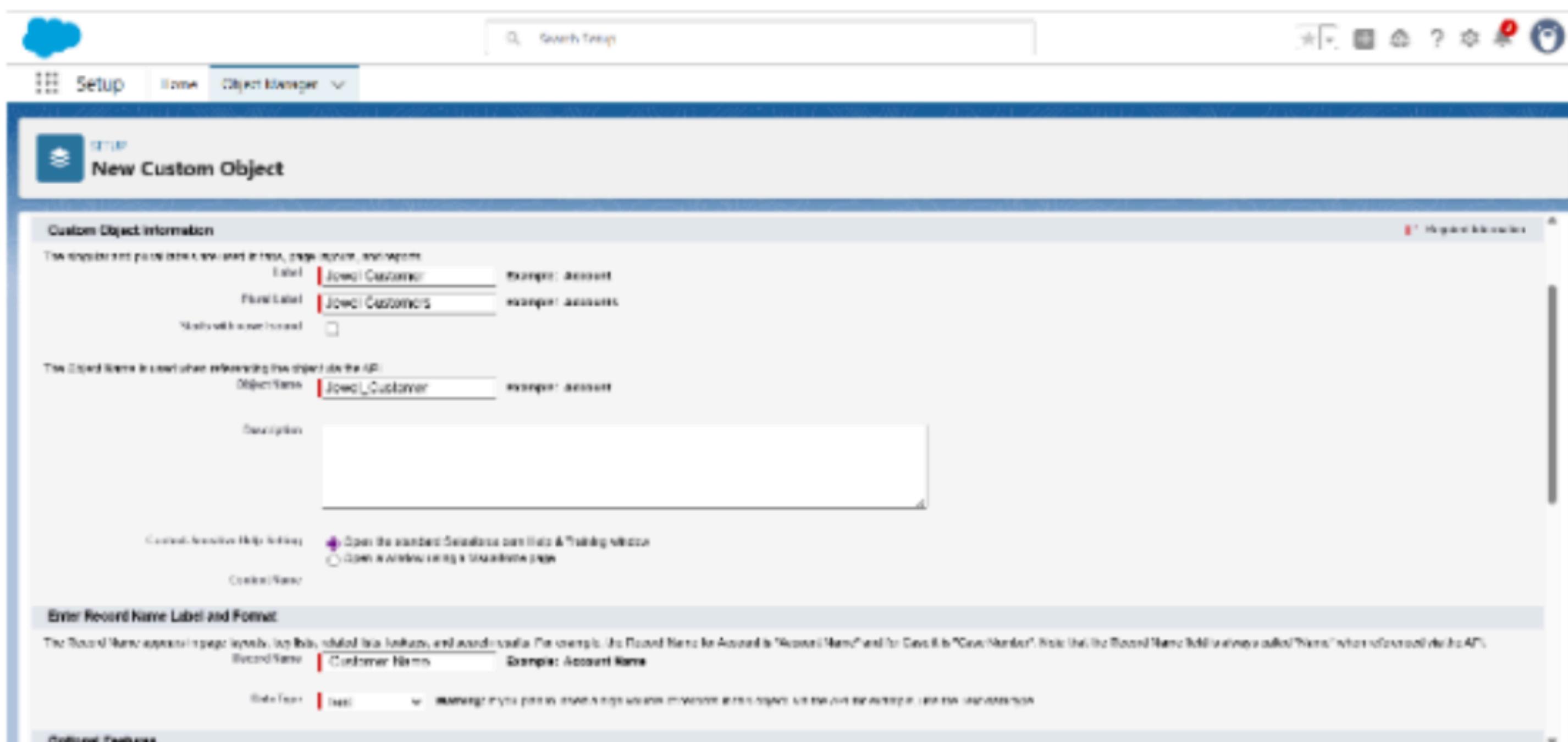
By using this URL - <https://developer.salesforce.com/signup>



2.2 Objects & Tabs

Created custom objects (Jewel Customer, Item, Order, Billing).

Created custom tabs for each object.



The screenshot shows the Salesforce Object Manager interface. A new custom object is being created with the following details:

- Label:** Item
- Field Label:** Items
- Object Name:** Item
- Contact Search Help Setting:** Open the standard assistance on Help searching within
- Custom Name:** -11111
- Order Record Name Label and Format:**
 - Record Name appears at page layout, key 805, 95805 805, 006925_203 55803 05485. For example, the record name for account 'ACCTNAME' (ID 001111111111111111) would be 001111111111111111.
 - Record Name:** ItemId
 - Format:** Auto Number
 - Starting Number:** 1

2.3 Lightning App

Created Jewel Management Lightning App with all required tabs.

The screenshot shows the "New Lightning App" setup screen. The "App Details & Branding" section includes:

- App Name:** Jewelry Inventory System
- Developer Name:** jewelry_inventory_system
- Description:** Elevate your look with elegance
- Image:** Placeholder for app image, with an "Upload" button.
- Primary Color Hex:** #0000ff
- Org Theme Options:** Checkboxes for "Use the app's image and color instead of the org's custom theme" and "Elevate your look with elegance".

2.4 Fields & Relationships

Added fields (Phone, Email, Purity, Price, Picklist, Formula fields, etc.).

Created Lookup and Master-Detail relationships.

The screenshot shows the Salesforce Object Manager interface for the 'Jewel Customer' object. The left sidebar lists various setup options like Page Layouts, Buttons, Links, and Actions, while the main content area displays the 'Fields & Relationships' section. This section contains 11 fields listed in a table with columns for Name, Type, and Description. A 'Quick Find' search bar is at the top, and a toolbar below it includes 'New', 'Delete Item', 'Field Dependencies', and 'Set Primary Setting'.

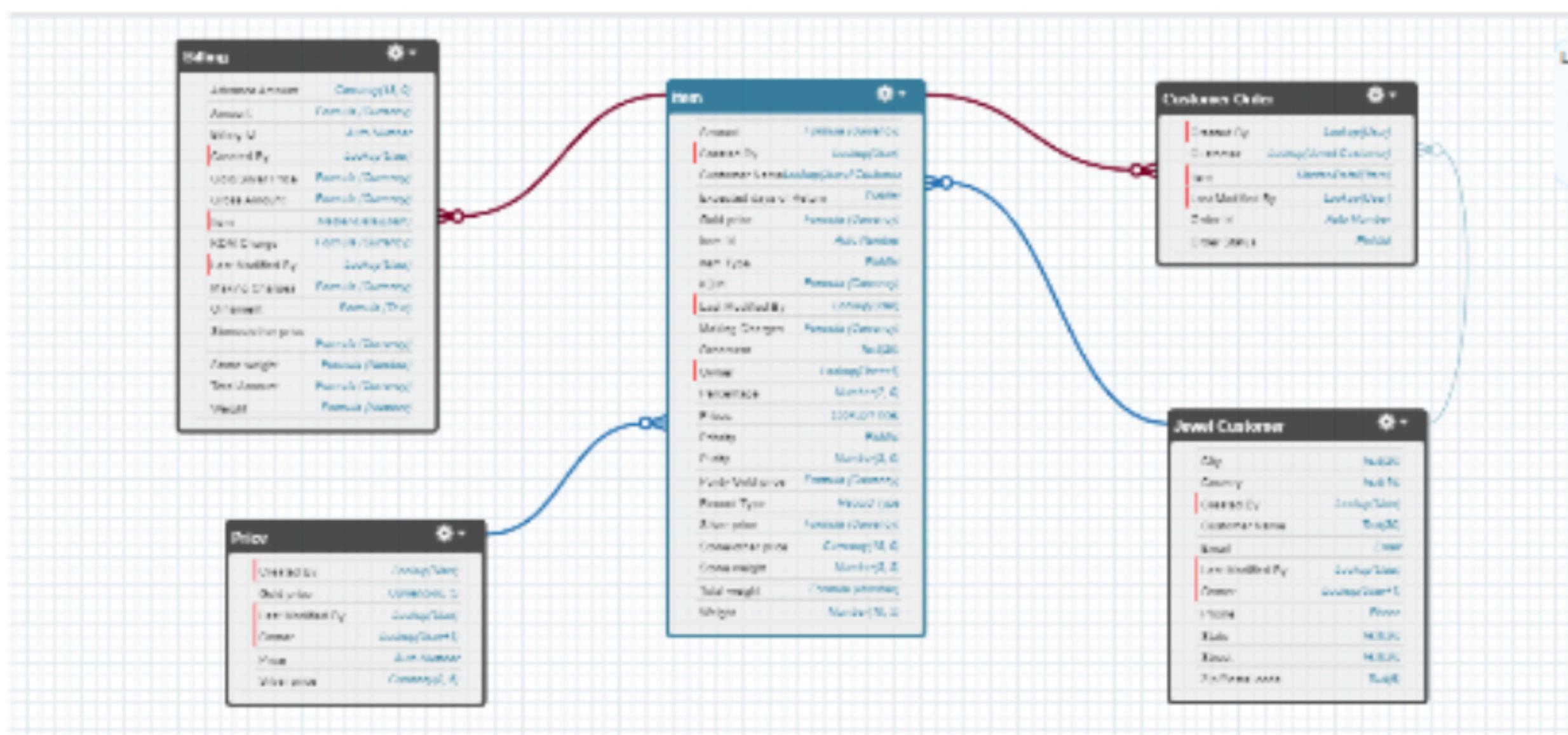
Name	Type	Description
Country	Country__c	Text(1)
Created By	CreatedBy	Lookup(User)
Customer Name	Name	Text(255)
Email	Email__c	Email
Last Modified By	LastModifiedBy	Lookup(User)
Phone	Phone__c	Phone
Phone	Phone_c	Phone
Owner	Owner_c	Owner
Zip/Postal code	Zip_Postal_code_c	Text(5)

The screenshot shows the Salesforce Object Manager interface for the 'Item' object. The left sidebar lists various setup options like Page Layouts, Buttons, Links, and Actions, while the main content area displays the 'Fields & Relationships' section. This section contains 11 fields listed in a table with columns for Name, Type, and Description. A 'Quick Find' search bar is at the top, and a toolbar below it includes 'New', 'Delete Item', 'Field Dependencies', and 'Set Primary Setting'.

Name	Type	Description
Percentage	Percentage__c	Number(0, 0)
Price	Price__c	Lookup(PriceBook)
Priority	Priority_c	Priority
Qty	Qty__c	Number(0, 0)
Party Date Price	Party_Gmt_Price__c	Formula(Datetime)
Record Type	RecordType	Record Type
Silver Price	Silver_Price__c	Formula(Number)
Stone Weight	Stone_Weight__c	Number(5, 3)
Stone/Other price	Stone_Other_Price__c	Currency(2)
Total Weight	Total_Weight__c	Formula(Number)

2.5 Schema Builder

Visualized object relationships and dependencies.



2.6 Profiles & Roles

Created Goldsmith and Worker profiles.

Defined role hierarchy (Worker reports to Goldsmith).

Q profile

SETUP

Profiles

Clone Profile

Enter the name of the new profile.

You must select an existing profile to clone from.

Existing Profile: System Administrator
User License: Salesforce
Profile Name:

Save Cancel

Q profile

SETUP

Profiles

Worker Profile

Set the permissions and page layouts for this profile.

Profile Edit

Name:
User License:
Description:

Save Save & New Cancel

2.7 Users

Created users and assigned profiles/roles.

The screenshot shows the Salesforce Setup interface. On the left, there's a sidebar with a navigation tree under 'User Management Settings'. The 'Users' node is selected. The main area is titled 'User Edit' and shows the details for a user named 'Niklaus Mikaelson'. The 'General Information' section contains fields for First Name ('Niklaus'), Last Name ('Mikaelson'), Alias ('niklaus'), Email ('ppzxx4482@gmail.com'), Username ('niklausmikaelson@org.com'), Middle Name ('Nick'), Title (''), Company (''), Department (''), and Division (''). To the right of these fields are dropdown menus for 'Role' (set to 'Cold Smith'), 'User License' (set to 'Salesforce'), 'Profile' (set to 'Cold Smith'), and checkboxes for 'Active' (checked), 'Marketing User' (unchecked), 'Officer User' (unchecked), 'Knowledge User' (unchecked), 'Trial User' (unchecked), 'Service-Cloud User' (unchecked), and 'Edition-Coordinator User' (unchecked). At the bottom of the edit screen are 'Save', 'Save & New', and 'Cancel' buttons.

2.8 Page Layouts & Record Types

Designed Gold & Silver layouts.

Created record types (Gold, Silver).

This screenshot is identical to the one above, showing the 'User Edit' screen for 'Niklaus Mikaelson'. The 'General Information' section and the right-hand configuration panel are the same, including the checked 'Active' checkbox and the 'Cold Smith' role assignment. The 'Save', 'Save & New', and 'Cancel' buttons are also present at the bottom.

The screenshot shows the Salesforce Setup interface with the path "SETUP > OBJECT MANAGER". The left sidebar lists various setup categories like Databricks, Fields & Relationships, Page Layouts, etc. The main content area is titled "Record Types" and displays two items: "Gold" and "Silver".

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Gold	Gold Items Information	✓	Pavithra M, 6/26/2025, 2:30 AM
Silver	Silver Items Information	✓	Pavithra M, 6/26/2025, 2:37 AM

2.9 Permission Sets

Created permission set for Billing Access.

The screenshot shows the Salesforce Setup interface with the path "SETUP > PERMISSION SET FER TO WORKER". The left sidebar shows "U2015" selected under "Permission Set Groups". The main content area is titled "Current Assignments" and lists two users assigned to the "Worker" role: "Kai Mikaelson" and "Robocon Mikaelson".

Full Name	Active	Role	Profile	User License	Expires On
Kai Mikaelson	✓	Worker	Worker Profile	Salesforce Platform	
Robocon Mikaelson	✓	Worker	Worker Profile	Salesforce Platform	

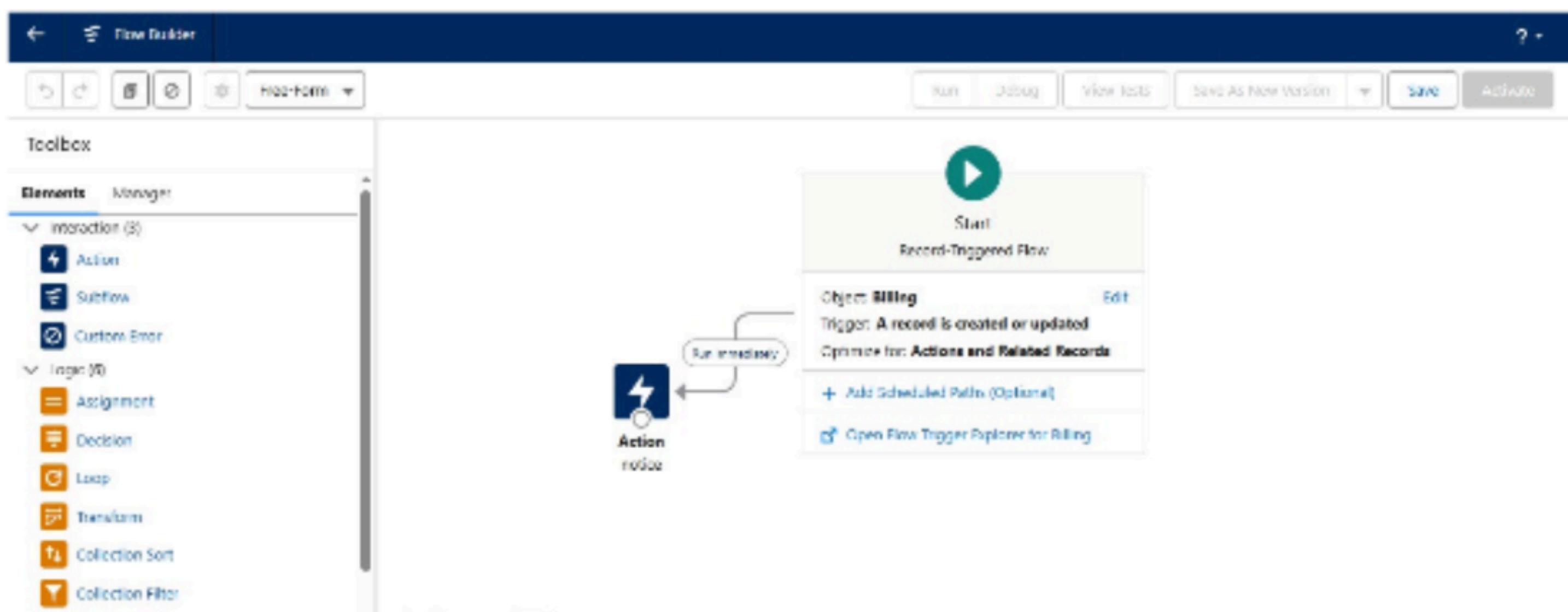
2.10 Automation (Triggers & Flows)

Apex Trigger to auto-generate Billing.

Flow for order confirmation and approval process.

The screenshot shows the Salesforce Developer Console with the trigger file "UpdatePaidAmountTrigger.apql" open. The code defines a trigger "UpdatePaidAmountTrigger" on the "Billing__c" object. It handles both insert and update events, calling methods from "UpdatePaidAmountTriggerHandler" to handle the logic before each operation.

```
1 - trigger UpdatePaidAmountTrigger on Billing__c (before insert, before update) {
2
3 -     if (Trigger.isInsert) {
4
5 -         UpdatePaidAmountTriggerHandler.handleBeforeInsert(Trigger.new);
6
7 -     } else if (Trigger.isUpdate) {
8
9 -         UpdatePaidAmountTriggerHandler.handleBeforeUpdate(Trigger.oldMap, Trigger.new);
10
11    }
12}
```



2.11 Reports & Dashboards

Reports for sales, customers, monthly sales trends.

Dashboard with KPIs.

	Customer: Customer name	Created Date	Amount	Expected Days Of Return	Gold Price	Item Type	Item Id	Billing Id
1	-	8/26/2025	\$120,000.00	6-7 Days	\$8,000.00	Gold	Item-01	Billing-01
2	Sample 5	8/26/2025	\$8,000	6-7 Days	\$0.00	Gold	Item-02	Billing-02
3	Sample 6	8/26/2025	-\$1,000	6-7 Days	\$8,000.00	Silver	Item-03	Billing-03
4	Sample 6	8/26/2025	\$255,000.00	4-5 Days	\$8,000.00	Gold	Item-04	Billing-04
5	-	8/26/2025	\$120,000.00	6-7 Days	\$8,000.00	Gold	Item-05	Billing-05
6	Sample 6	8/26/2025	\$8,000	6-7 Days	\$0.00	Gold	Item-06	Billing-06
7	Sample 6	8/26/2025	-\$1,000	6-7 Days	\$8,000.00	Silver	Item-07	Billing-07
8	Sample 6	8/26/2025	\$255,000.00	4-5 Days	\$8,000.00	Gold	Item-08	Billing-08
9	Sample 5	8/26/2025	\$11,042	6-7 Days	\$8,000.00	Silver	Item-09	Billing-09
10	Sample 7	8/26/2025	\$8,000	4-5 Days	\$0.00	Gold	Item-10	-
11	Sample 6	8/26/2025	\$255,000.00	4-5 Days	\$8,000.00	Gold	Item-11	-

	Customer: Customer name	Created Date	A...	Expected Days O...	Gal...
1	-	8/26/2025	\$120,000.00	6-7 Days	\$8,000
2	Sample 5	8/26/2025	\$8,000	6-7 Days	\$0.00
3	Sample 6	8/26/2025	-\$1,000	6-7 Days	\$8,000.00
4	Sample 6	8/26/2025	\$255,000.00	4-5 Days	\$8,000.00
5	-	8/26/2025	\$120,000.00	6-7 Days	\$8,000.00
6	Sample 6	8/26/2025	\$8,000	6-7 Days	\$0.00
7	Sample 6	8/26/2025	-\$1,000	6-7 Days	\$8,000.00
8	Sample 6	8/26/2025	\$255,000.00	4-5 Days	\$8,000.00
9	Sample 5	8/26/2025	\$11,042	6-7 Days	\$8,000.00
10	Sample 7	8/26/2025	\$8,000	4-5 Days	\$0.00
11	Sample 6	8/26/2025	\$255,000.00	4-5 Days	\$8,000.00

2.12 User Adoption

Tested by creating, viewing, and deleting Jewel Customer records.

Monitored login history & usage metrics.

The screenshot shows a list of recently viewed customers. At the top, there is a search bar and a toolbar with icons for New, Import, Change Owner, and Assign Label. Below the toolbar, a sub-header reads "Recently Viewed" with a dropdown arrow and a refresh icon. A message indicates "9 items - Updated a few seconds ago". The main list contains 9 items, each with a checkbox and a sample name: Sample 8, Sample 7, Sample 6, Sample 5, Sample 4, Sample 3, Sample 2, Sample 1, and ParithraM. To the right of each item is a small downward arrow icon.

4. Performance Testing

The purpose of performance testing is to ensure that the CRM functions efficiently under different workloads and maintains smooth user experience.

Tests Conducted

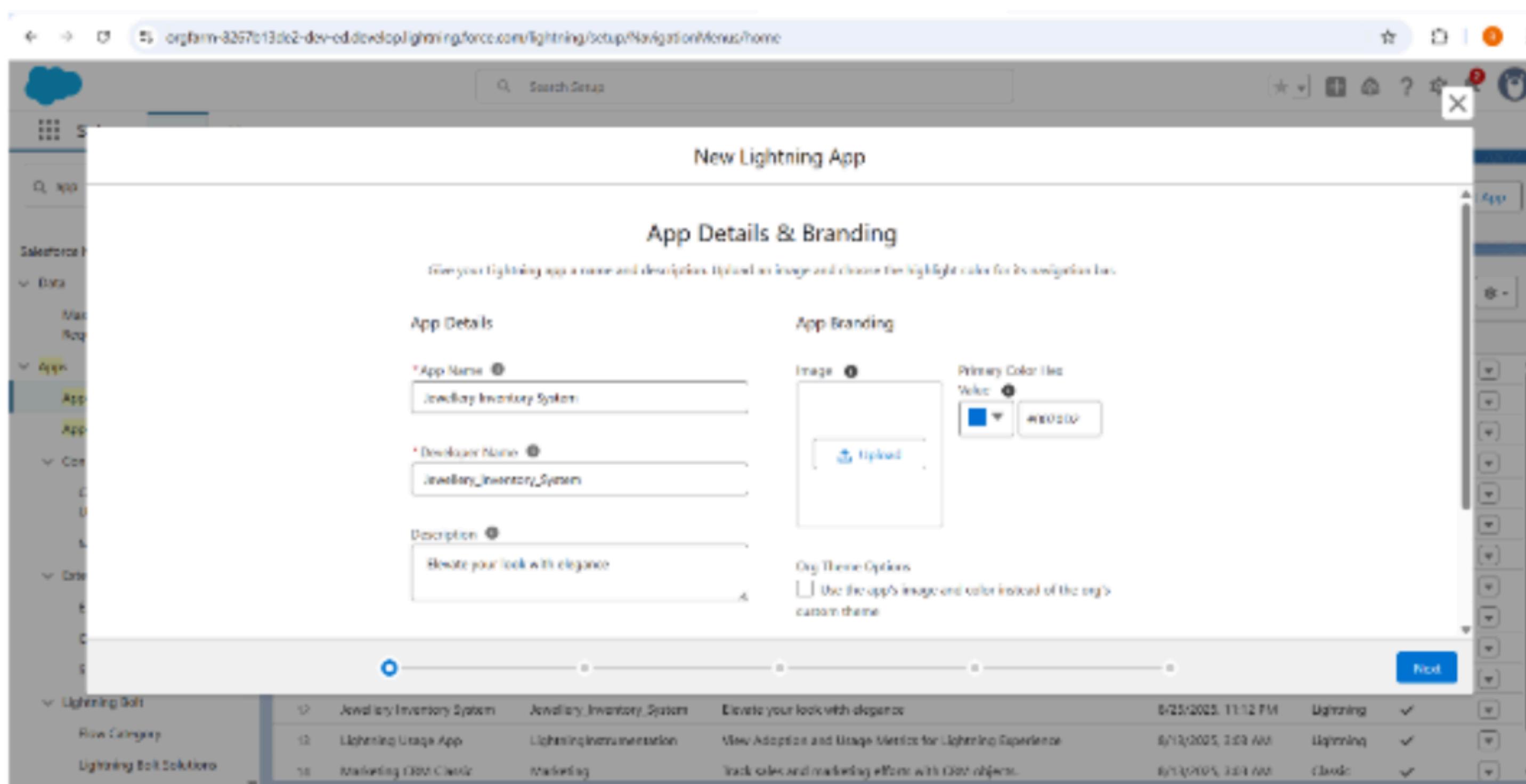
4.1 Record Load Test

Created 100+ Jewel Customer records to validate system stability and responsiveness.

This screenshot is identical to the one above, showing the "Recently Viewed" list of customers. It displays 9 items, with the same sample names and layout as the previous screenshot. This indicates that the system has successfully created and listed over 100 customer records.

4.2 Page Load Performance

Measured Lightning record page load time for Item and Order objects.

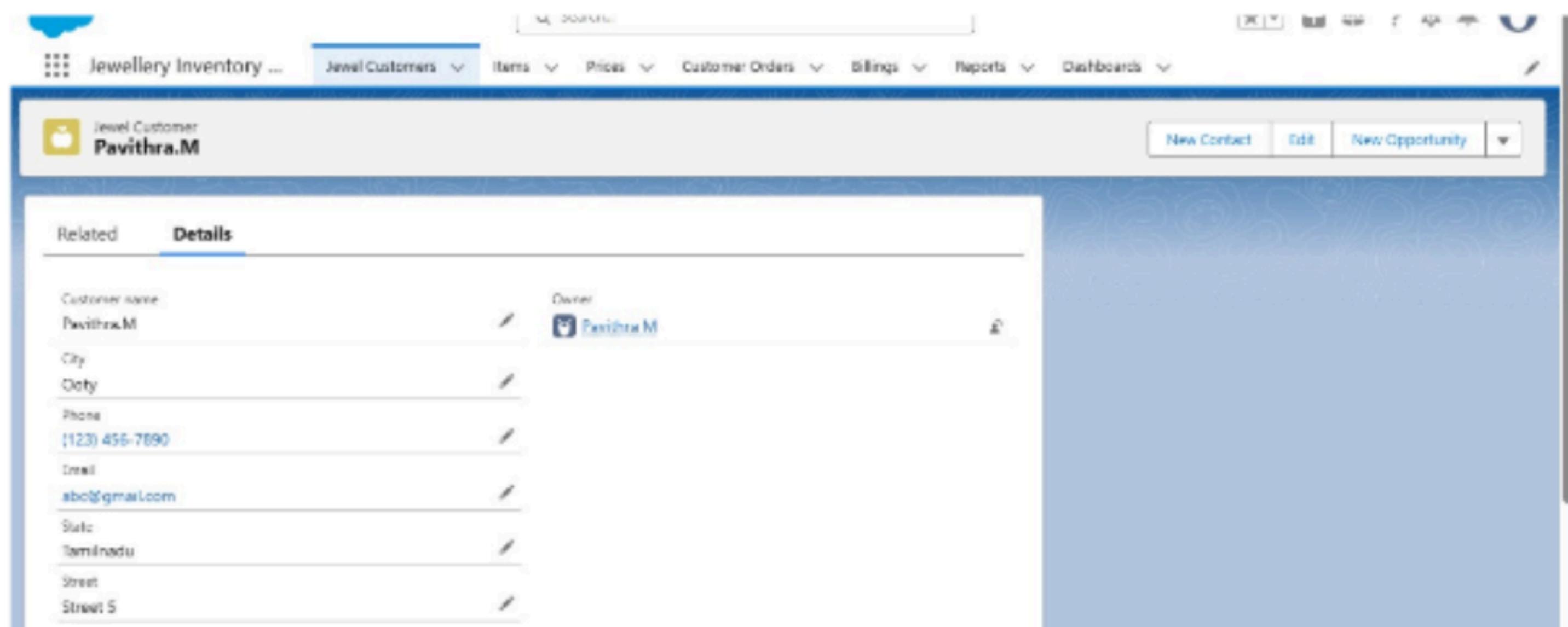


5. Testing Results

5.1 Functional Testing Results

Object Creation (Pass)

Successfully created Jewel Customer and Item records with mandatory fields.



Validation Rules (Pass)

Invalid Phone number/Email triggered error messages correctly.

The screenshot shows the 'Validation Rules' list page for the 'Jewel Customer' object. The left sidebar contains links for Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, and Record Types. The main area displays a table with two validation rules:

RULE NAME	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY
Postal_Code	Top of Page	Must contain 5 digits", select the Error location as Field and select the field as "Zip/Postal code"	✓	Ravithra M, 8/25/2025, 9:26 AM
ValidationRule_For_JewelCustomerObject	Top of Page	Please fill required fields	✓	Ravithra M, 8/25/2025, 9:33 AM

The screenshot shows the 'Validation Rule Detail' page for the 'Postal_Code' rule under the 'Jewel Customer Validation Rule'. The left sidebar is identical to the previous screenshot. The main area shows the rule details:

Rule Name	Portal_Code	Active
Error Condition Formula	AND(LEN(Zip_Postal_code__c) == 5, NOT(IREGEX(Zip_Postal_code__c, "[1-9]{5}[0-9]")) , NOT(ISBLANK(Zip_Postal_code__c)))	✓
Error Message	Must contain 5 digits", select the Error location as Field and select the field as "Zip/Postal code"	Error Location: Top of Page
Description		Created By: Ravithra M, 8/25/2025, 9:26 AM
Created By	Ravithra M, 8/25/2025, 9:26 AM	Modified By: Ravithra M, 8/25/2025, 9:26 AM

The screenshot shows the Salesforce Setup interface under the Object Manager section for the 'Item' object. On the left, a sidebar lists various configuration options like Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, and Related Lookup Filters. The main content area is titled 'Item Validation Rule' and displays the 'Validation Rule Detail' for 'ValidationRule_Far_Item'. It shows the error condition formula: CH: ISBLANK(Quantity__c) || ISBLANK(Customer__c) || ISBLANK(Gold_Price__c) || ISBLANK(KEM__c) || ISBLANK(Osmium__c) || ISBLANK(Percentage__c) || ISBLANK(Mining_Charge__c) || ISBLANK(Price__c) || ISBLANK(Stone_Weight__c) || ISBLANK(Silver_Price__c) || ISBLANK(Stone_Other_Price__c) || ISBLANK(Stone_Weight__c) || ISBLANK(Weight__c). The validation message is 'Please fill Required fields'. The status is 'Active' with a checkmark. The error location is 'Top of Page'. The record was created by 'David M.' on 8/25/2025 at 9:44 AM and modified by 'David M.' on the same date and time. There are 'Edit' and 'Close' buttons at the bottom.

Trigger Automation (Pass)

Billing record was auto-created when Order status = Confirmed.

The screenshot shows the Salesforce Reports & Dashboards interface. The top navigation bar includes links for 'Jewellery Inventory ...', 'Jewel Customers', 'Items', 'Prices', 'Customer Orders', 'Billings', 'Reports', and 'Dashboards'. The main content area displays a report titled 'Report: Billings with Item and Customer Order' for 'Billings with Item and Customer Order'. The report summary shows 'Total Records: 9' and 'Total Amount: \$750,387.86'. Below this is a table with columns: 'Amount', 'Item: Item Id', 'Billing Id', and 'Duplicate Record Item Name'. The table data is as follows:

	Amount	Item: Item Id	Billing Id	Duplicate Record Item Name
1	\$0.00	Item-07	Billing-07	
2	\$123,000.00	Item-09	Billing-06	
3	\$0.00	-	Billing-05	-
4	\$255,200.00	Item-09	Billing-04	-
5	\$255,200.00	Item-09	Billing-09	-
6	-\$1.07	Item-08	Billing-06	-
7	\$0.00	Item-07	Billing-02	-
8	-\$1.07	Item-08	Billing-03	-
9	\$123,000.00	Item-09	Billing-01	-
10	\$750,387.86			

Reports & Dashboards (Pass)

Reports displayed accurate totals, dashboards generated charts successfully.

The screenshot shows the Salesforce Reports page titled "Jewellery Inventory ...". The page includes a search bar, a "Recent" section, and a main table listing reports. The table columns are: REPORTS, Report Name, Description, Folder, Created By, Created On, and Subscribed.

REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	Order Report		Private Reports	Rishiga Venkatesan	8/27/2025, 2:49 AM	
Created by Me	Billing with Item and customer order		Private Reports	Rishiga Venkatesan	8/27/2025, 10:48 PM	
Private Reports	Billing with Item Report		Private Reports	Rishiga Venkatesan	8/27/2025, 7:51 AM	
Public Reports	Item with Billing		Private Reports	Rishiga Venkatesan	8/27/2025, 8:35 AM	
All Reports						

On the left sidebar, there are sections for FOLDERS (All folders, Created by Me, Shared with Me) and FAVORITES (All favorites).

The screenshot shows the Salesforce Dashboards page titled "Jewellery Inventory ...". The page includes a search bar, a "Recent" section, and a main table listing dashboards. The table columns are: DASHBOARDS, Dashboard Name, Description, Folder, Created By, Created On, and Subscribed.

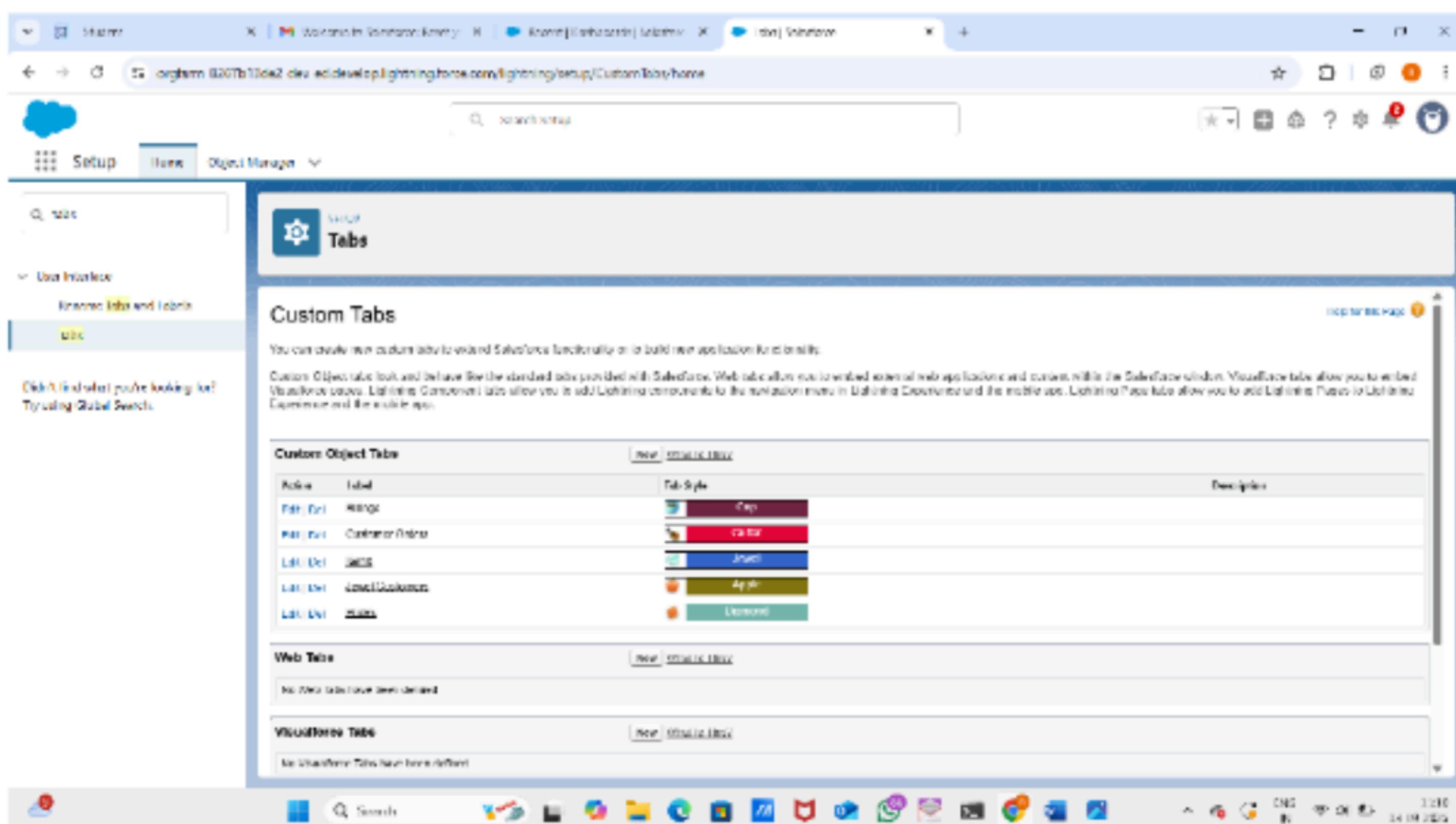
DASHBOARDS	Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Recent	Dashboard 1		Private Dashboards	Rishiga Venkatesan	8/27/2025, 2:49 AM	
Created by Me	Dashboard 2		Private Dashboards	Rishiga Venkatesan	8/27/2025, 10:41 PM	
Private Dashboards						
All Dashboards						

On the left sidebar, there are sections for FOLDERS (All folders, Created by Me, Shared with Me) and FAVORITES (All favorites).

5.2 Performance Testing Results

Record Load Test (Pass)

Created and handled 100+ Jewel Customer records without errors.



7. Conclusion

The Jewel Management CRM Application in Salesforce successfully streamlines jewelry business operations by managing customers, items, orders, and billing in a single platform. With automation through triggers and flows, secure role-based access, and powerful reports and dashboards, the system improves efficiency and supports better decision-making.

The project also lays a strong foundation for future enhancements like AI recommendations, chatbot integration, and mobile app support, making it a scalable and reliable solution for jewel management.

8. Appendix

8.1 Source Code: Apex Trigger & Handler

OrderTrigger.apxt

```
trigger OrderTrigger on Order__c (after insert, after update) {  
    if (Trigger.isAfter && (Trigger.isInsert || Trigger.isUpdate)) {  
        OrderTriggerHandler.createBilling(Trigger.new);  
    }  
}
```

OrderTriggerHandler.apxc

```
public class OrderTriggerHandler {  
    public static void createBilling(List<Order__c> newOrders) {  
        List<Billing__c> billingList = new List<Billing__c>();  
  
        for (Order__c ord : newOrders) {  
            if (ord.Status__c == 'Confirmed') {  
                Billing__c bill = new Billing__c();  
                bill.Order__c = ord.Id;  
                bill.Invoice_No__c = 'INV-' + String.valueOf(System.currentTimeMillis());  
                bill.Amount_Paid__c = ord.Total_Price__c;  
                bill.Payment_Status__c = 'Pending';  
                billingList.add(bill);  
            }  
        }  
        if (!billingList.isEmpty()) {  
            insert billingList;  
        }  
    }  
}
```

8.2 Scheduled Job Example

MonthlyReportScheduler.ap

```
global class MonthlyReportScheduler implements Schedulable {
```

```
global void execute(SchedulableContext sc) {  
    sendMonthlySalesReport();  
}
```

```
// Example: Send email with monthly report (simplified)

String emailContent = 'This is the monthly sales report. Total Orders: ' + orders.size();
Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
email.setToAddresses(new String[]{'manager@jewelcrm.com'});
email.setSubject('Monthly Sales Report');
email.setPlainTextBody(emailContent);

Messaging.sendEmail(new Messaging.SingleEmailMessage[]{email});

}
```

wPS Office