

Project Title : CRM Application for Jewel management (Developer)

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1. Introduction

1.1 Project Overview

The CRM Application for Jewel Management is designed to streamline jewellery business operations. It helps in managing customer details, tracking sales orders, monitoring inventory, and maintaining billing records in an organized way. This application improves customer relationships, reduces manual effort, and supports better decision-making through efficient data handling.



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1.2 Objectives

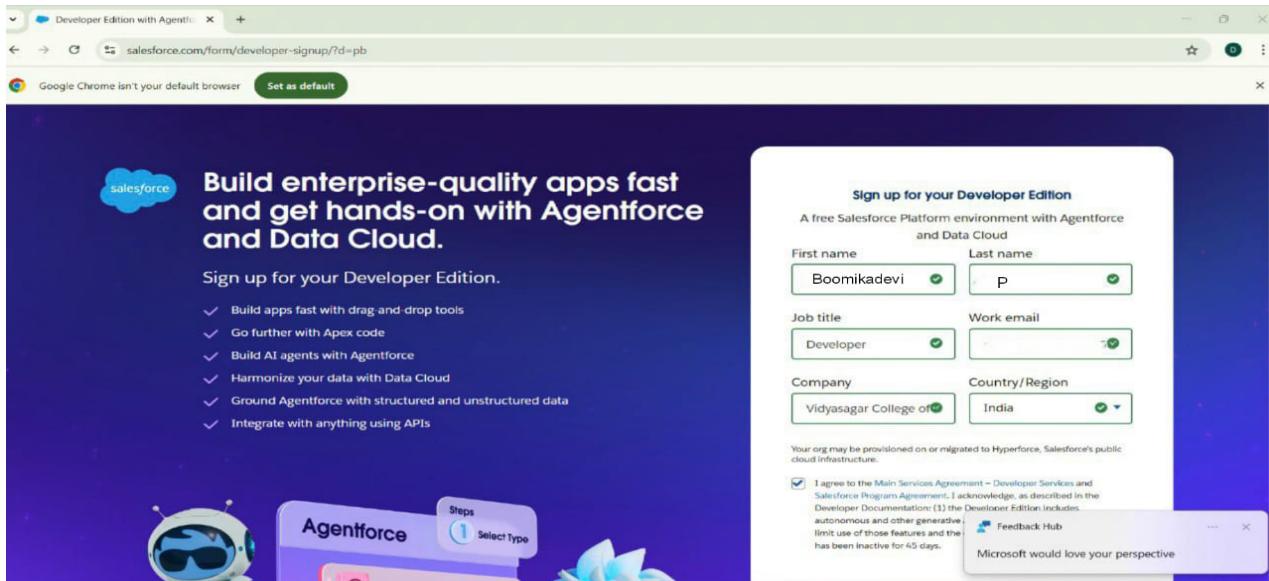
The CRM Application for Jewel Management aims to improve customer relationships, streamline sales and inventory management, and automate routine tasks. This leads to better customer service, smarter business decisions, and increased efficiency for jewelry businesses.

DEVELOPMENT PHASE

Creating a Developer Account:



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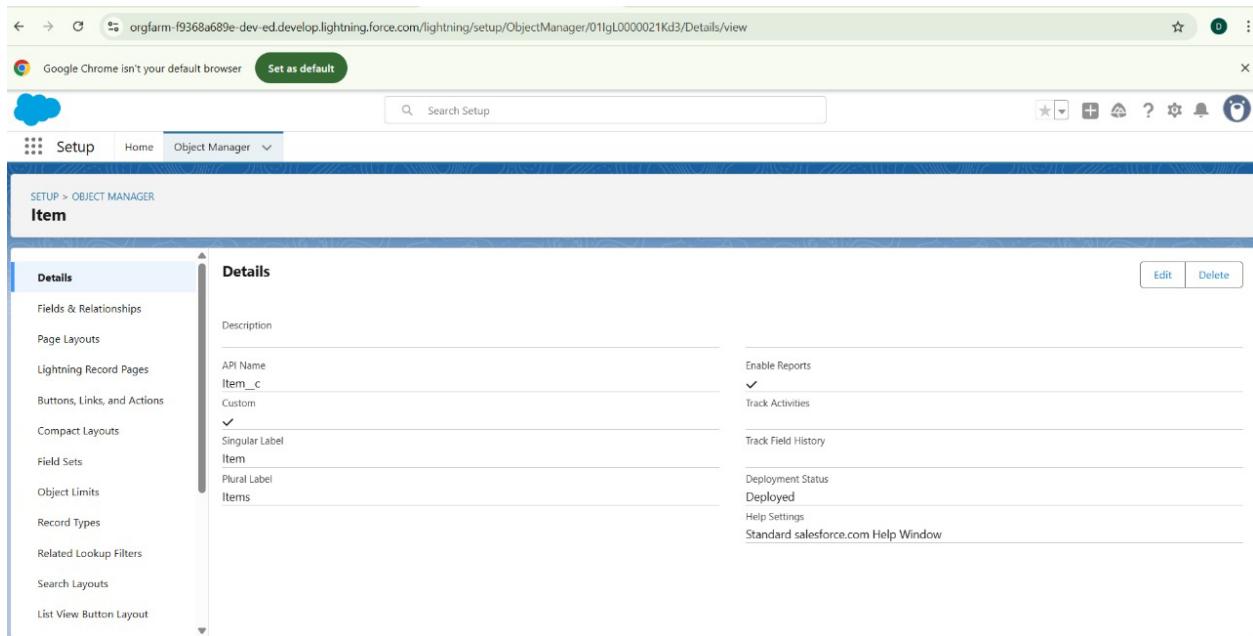
By using this URL-<https://www.salesforce.com/form/developer-signup/?d=pb>

• Creating objects : Jewel Customer, Item,



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Customer Order, Price, Billings



The screenshot shows the Salesforce Object Manager interface. The top navigation bar includes links for Setup, Home, and Object Manager. A search bar is at the top right. The main area displays the 'Item' object details. On the left, a sidebar lists various configuration options under 'Details'. The main panel shows the following fields:

Field	Value
Description	
API Name	Item_c
Custom	✓
Singular Label	Item
Plural Label	Items
Enable Reports	✓
Track Activities	
Track Field History	
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

At the bottom right of the main panel are 'Edit' and 'Delete' buttons.



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The screenshot shows the Salesforce Object Manager interface. The top navigation bar includes links for Setup, Home, and Object Manager. The main title is "Customer Order". On the left, a sidebar lists various configuration options under "Details": Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The right panel displays the "Details" section for the Customer Order object. It shows the API Name as "Customer_Order__c", which is marked as "Custom". Other settings include Singular Label ("Customer Order"), Plural Label ("Customer Orders"), and various deployment and help settings.

The screenshot shows the Salesforce Object Manager interface. The top navigation bar includes links for Setup, Home, and Object Manager. The main title is "Price". The left sidebar lists the same configuration options as the previous screenshot. The right panel displays the "Details" section for the Price object. It shows the API Name as "Price__c", which is marked as "Custom". Other settings include Singular Label ("Price") and Plural Label ("Prices").



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- **Creating Tabs for the Objects:**

Custom Tabs

You can create new custom tabs to extend Salesforce functionality or to build new application functionality.

Custom Object tabs look and behave like the standard tabs provided with Salesforce. Web tabs allow you to embed external web applications and content within the Salesforce window. Visualforce tabs allow you to embed Visualforce pages. Lightning Component tabs allow you to add Lightning components to the navigation menu in Lightning Experience and the mobile app. Lightning Page tabs allow you to add Lightning Pages to Lightning Experience and the mobile app.

Action	Label	Tab Style	Description
Edit Del	Billing	Insect	
Edit Del	Customer Orders	Books	
Edit Del	Items	Boat	
Edit Del	Jewel Customers	Apple	
Edit Del	Prices	Bell	

Web Tabs

No Web Tabs have been defined.

API Name: Billing_c
Custom:
Singular Label: Billing
Plural Label: Billings

Enable Reports: ✓
Track Activities:
Track Field History:
Deployment Status: Deployed
Help Settings:
Standard salesforce.com Help Window:

- **Creating a Lightning app:**



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Google Chrome isn't your default browser Set as default

Search Setup

New Lightning App

App Details

- *App Name: Jewellery Inventory System
- *Developer Name: Jewellery_Inventory_System
- Description: Elevate your look with elegance!

App Branding

- Image:
- Primary Color Hex Value: #0070D2

Org Theme Options

- Use the app's image and color instead of the org's custom theme

App Launcher Preview

Next

11	Digital Experiences	SalesforceCMS	Manage content and media for all of your sites.	8/31/2025, 5:55 PM	Lightning	<input checked="" type="checkbox"/>
12	Lightning Usage App	LightningInstrumentation	View Adoption and Usage Metrics for Lightning Experience	8/31/2025, 5:55 PM	Lightning	<input checked="" type="checkbox"/>

● Creating Fields and relationships:

Google Chrome isn't your default browser Set as default

Search Setup

SETUP > OBJECT MANAGER Customer Order

Details

Fields & Relationships

5 Items. Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Customer	Customer__c	Lookup(Jewel Customer)		<input checked="" type="checkbox"/>
Customer Order id	Name	Auto Number		<input checked="" type="checkbox"/>
Item	Item__c	Master-Detail(Item)		<input checked="" type="checkbox"/>
Last Modified By	LastModifiedById	Lookup(User)		



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Jewel Customer Validation Rule

Rule Name: Postal_Code

Error Condition Formula:

```
AND(
    OR(
        LEN(Zip_Postal_code__c) <> 6,
        NOT(REGEX(Zip_Postal_code__c, "[0-9]{6}$"))
    ),
    NOT(ISBLANK(Zip_Postal_code__c))
)
```

Error Message: "Must contain 6 digits", select the Error location as Field and select the field as "Zip/Postal code"

Description: Created By: Dhanya J, 9/6/2025, 4:57 AM

Modified By: Dhanya J, 9/6/2025, 4:57 AM

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Gold_Price	Gold_Price__c	Currency(8, 0)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Price Id	Name	Auto Number		✓

Same for Jewel Customer, Item, Billing



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- **Creating the Validation Rule:**
Created Validation Rule for Jewel Customer and Item Objects

The screenshot shows the Salesforce Object Manager interface. A validation rule named "Postal_Code" has been created for the "Jewel Customer" object. The validation formula is: AND(LEN(Zip_Postal_code__c) > 6, NOT(REGEX(Zip_Postal_code__c, "[0-9]{6}"))). The error message is: "Must contain 6 digits". The rule is active and was created by Dhivya J. on 9/6/2025 at 4:57 AM.

Validation Rule Detail	
Rule Name	Postal_Code
Error Condition Formula	AND(LEN(Zip_Postal_code__c) > 6, NOT(REGEX(Zip_Postal_code__c, "[0-9]{6}"))), NOT(ISBLANK(Zip_Postal_code__c)))
Error Message	"Must contain 6 digits". select the Error location as Field and select the field as "Zip/Postal code"
Description	
Created By	Dhivya J. 9/6/2025, 4:57 AM
Modified By	Dhivya J. 9/6/2025, 4:57 AM

- **Creating Profiles:**

The screenshot shows the Salesforce Enhanced Profiles page. It lists various profiles such as Analytics Cloud Integration User, Analytics Cloud Security User, Identity, Authenticated Website, External Apps Login, Chatter External, Chatter Free, Chatter Free User, Chatter Moderator User, Contact Manager, XOrg Proxy User, Salesforce, Custom Marketing Profile, Custom Sales Profile, and Custom Support Profile. The "External Apps Login" profile is selected, indicated by a checked checkbox in the "Action" column.

Action	Profile Name	User License	Custom
<input type="checkbox"/>	Analytics Cloud Integration User	Analytics Cloud Integration User	<input type="checkbox"/>
<input type="checkbox"/>	Analytics Cloud Security User	Analytics Cloud Integration User	<input type="checkbox"/>
<input type="checkbox"/>	Identity	Identity	<input type="checkbox"/>
<input type="checkbox"/>	Authenticated Website	Authenticated Website	<input type="checkbox"/>
<input type="checkbox"/>	External Apps Login	External Apps Login	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Chatter External	Chatter External	<input type="checkbox"/>
<input type="checkbox"/>	Chatter Free	Chatter Free	<input type="checkbox"/>
<input type="checkbox"/>	Chatter Free User	Chatter Free User	<input type="checkbox"/>
<input type="checkbox"/>	Chatter Moderator User	Chatter Moderator User	<input type="checkbox"/>
<input type="checkbox"/>	Contact Manager	Contact Manager	<input type="checkbox"/>
<input type="checkbox"/>	XOrg Proxy User	XOrg Proxy User	<input type="checkbox"/>
<input type="checkbox"/>	Salesforce	Salesforce	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Custom Marketing Profile	Custom Marketing Profile	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Custom Sales Profile	Custom Sales Profile	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Custom Support Profile	Custom Support Profile	<input checked="" type="checkbox"/>



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Created Gold Smith Profile and Worker Profile

- **Creating Roles:**

Created Gold Smith Role and one more role as Worker which Reports to Gold Smith

The image displays two screenshots of the Salesforce Setup interface, showing the creation of two roles: 'Gold Smith' and 'Worker'.

Screenshot 1: Gold Smith Role

The 'Role Detail' section for 'Gold Smith' shows the following details:

- Label:** Gold Smith
- This role reports to:** CEO
- Role Name as displayed on reports:** Gold_Smith

Screenshot 2: Worker Role

The 'Role Detail' section for 'Worker' shows the following details:

- Label:** Worker
- This role reports to:** Gold Smith
- Modified By:** Chirayu J 9/5/2025, 5:32 AM
- Opportunity Access:** Users in this role can edit all opportunities associated with accounts that they own, regardless of who owns the opportunities
- Case Access:** Users in this role can edit all cases associated with accounts that they own, regardless of who owns the cases
- Role Name as displayed on reports:** Worker
- Sharing Groups:** Role, Role and Internal Subordinates

Common Interface Elements:

- Left Navigation Bar:** Includes 'Users' (with 'Roles' selected), 'Feature Settings' (with 'Sales' expanded), and 'Service'.
- Header:** Shows 'orgfarm-f9368a689e-dev-ed.develop.lightning.force.com/lightning/setup/Roles/page?address=%2F00EgL0000046mPR%3Fsetupid%3DRoles'.
- Search Bar:** 'Search Setup'.
- Tool Buttons:** Standard setup icons like Home, Object Manager, etc.



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• Creating Users:

Created one Gold Smith Role and two Workers Roles

The screenshot shows the Salesforce Setup interface under the 'Users' section. The left sidebar includes links for Setup Home, Salesforce Go, Service Setup Assistant, Commerce Setup Assistant, Field Service Setup Home (Beta), Hyperforce Assistant, Release Updates, Salesforce Mobile App, Lightning Usage, Optimizer, Sales Cloud Everywhere, Administration, and Users. The main content area is titled 'All Users' and displays a table of users. The columns include Action, Full Name, Alias, Username, Role, Active, and Profile. The table lists several users, including Chatter Expert, OEPIC_OrgFarm, J.Diluya, Michaelson_Nelson, Mikaelson_Kai, Mikaelson_Niklaus, User_Integration, and User_Security. The 'Role' column indicates the user's role: Worker or Gold Smith. The 'Profile' column shows the specific profile assigned to each user.

Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/> Edit	Chatter Expert	Chatter	chatty@00000aaaz6euay.jxt5bkc4trr@chatter.salesforce.com		<input checked="" type="checkbox"/>	Chatter Free User
<input type="checkbox"/> Edit	OEPIC_OrgFarm	OEPIC	epr.aae98319bd2@orgfarm.salesforce.com		<input checked="" type="checkbox"/>	System Administrator
<input type="checkbox"/> Edit	J.Diluya	dhi	dhivyaagatheesan4533@agentforce.com		<input checked="" type="checkbox"/>	System Administrator
<input type="checkbox"/> Edit	Michaelson_Nelson	nmika	jagatheesan.ts@gmail.com	Worker	<input checked="" type="checkbox"/>	Worker Profile
<input type="checkbox"/> Edit	Mikaelson_Kai	mik	dhivya@org.com	Worker	<input checked="" type="checkbox"/>	Worker Profile
<input type="checkbox"/> Edit	Mikaelson_Niklaus	n.mik	dhivyaagatheesan45@gmail.com	Gold Smith	<input checked="" type="checkbox"/>	Gold Smith
<input type="checkbox"/> Edit	User_Integration	Integ	integration@00gj00000aaaz6euay.com		<input checked="" type="checkbox"/>	Analytics.Cloud_Integration_User
<input type="checkbox"/> Edit	User_Security	sec	insightsecurity@00gd00000aaaz7euay.com		<input checked="" type="checkbox"/>	Analytics.Cloud_Security_User

• Records:

Creating Records for Gold and Silver items

The screenshot shows the Salesforce Setup interface under the 'Object Manager' section. The left sidebar includes links for Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, and Scoping Rules. The main content area is titled 'Record Types' and displays a table of record types. The columns include Record Type Label, Description, Active, and Modified By. The table lists 'Gold' and 'Silver' record types, both described as 'Items' and 'Information'. The 'Active' column shows a checked checkbox for both, and the 'Modified By' column shows 'Dhivya J.' with the date and time of modification.

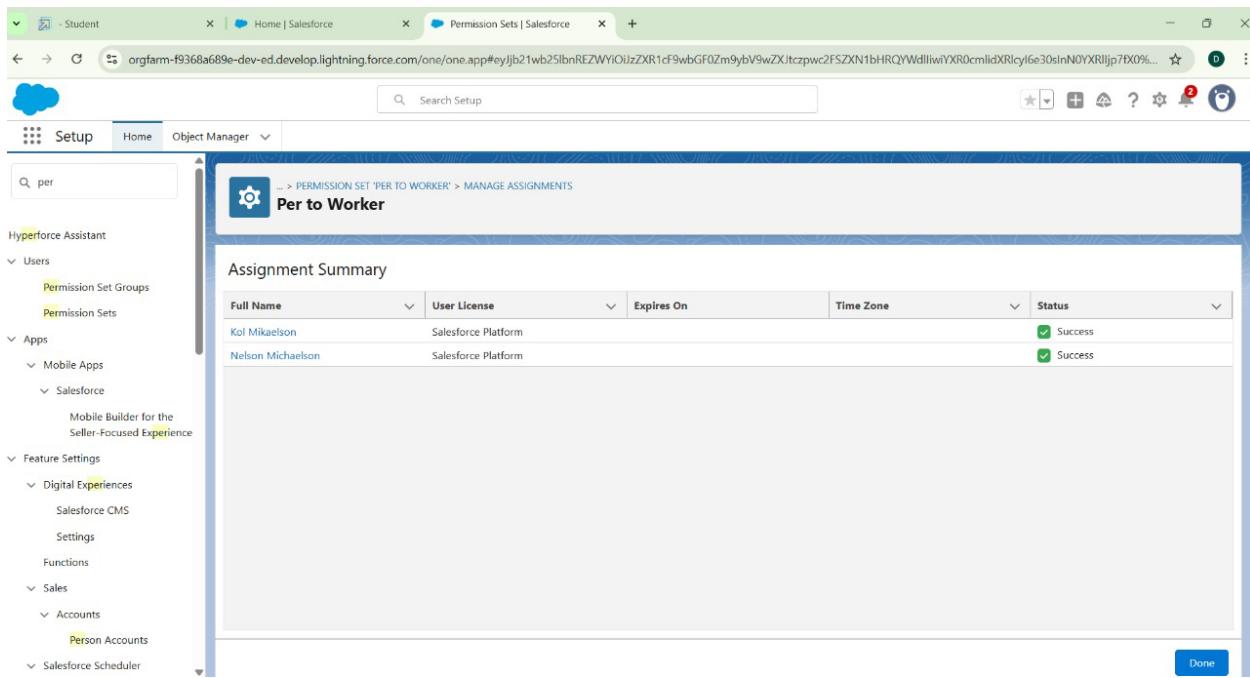
RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Gold	Gold Items information	<input checked="" type="checkbox"/>	Dhivya J. 9/6/2025, 10:57 PM
Silver	Silver items information	<input checked="" type="checkbox"/>	Dhivya J. 9/6/2025, 11:07 PM



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- **Permission Sets :**

Permission sets are used to extend users functional access without changing their profile. Users can have only one profile but, depending on the Salesforce edition, they can have multiple permission sets.



- **Triggers :**

Apex class Name-
UpdatePaidAmountTriggerHandler



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The screenshot shows the Salesforce Developer Console interface. The top navigation bar includes tabs for Home | Salesforce, Billing | Salesforce, and Developer Console. The main area displays the code for `UpdatePaidAmountTriggerHandler.apc`. The code implements two static methods: `handleBeforeInsert` and `handleBeforeUpdate`, both of which iterate through lists of `Billing__c` objects and update the `Paid_Amount__c` field to match the `Paying_Amount__c` field.

```
1 public class UpdatePaidAmountTriggerHandler {
2     public static void handleBeforeInsert(List<Billing__c> newBillings) {
3         for (Billing__c billing : newBillings) {
4             billing.Paid_Amount__c = billing.Paying_Amount__c;
5         }
6     }
7
8     public static void handleBeforeUpdate(Map<Id, Billing__c> oldBillingsMap, List<Billing__c> updatedBillings) {
9         for (Billing__c billing : updatedBillings) {
10            Billing__c oldBilling = oldBillingsMap.get(billing.Id);
11            billing.Paid_Amount__c = oldBilling.Paying_Amount__c;
12        }
13    }
14 }
```

Created a Apex Trigger:

Trigger name- UpdatePaidAmountTrigger

The screenshot shows the Salesforce Developer Console interface. The top navigation bar includes tabs for Home | Salesforce, Billing | Salesforce, and Developer Console. The main area displays the code for `UpdatePaidAmountTrigger.apc`. The code defines a trigger named `UpdatePaidAmountTrigger` that fires before insert or update on the `Billing__c` object. It uses the `UpdatePaidAmountTriggerHandler` class to handle the trigger logic.

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



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- **User Adoption:**

Creating a Records for Jewel Customer, Item, Price, Billing and Customer Order by clicking on the app launcher and search for jewellery inventory system.

- **Reports:**

Creating reports for Prices, Items with Billings, Billings with Item and Customer Order.

The screenshot shows a Salesforce report titled "Price Report". The report displays 10 records of prices. The columns are labeled "Price: Price Id", "Gold Price", and "Silver Price". The data is as follows:

	Price: Price Id	Gold Price	Silver Price
1	Price-08	\$10,990	\$1,385.00000
2	Price-02	\$10,850	\$1,350.00000
3	Price-05	\$10,930	\$1,370.00000
4	Price-01	\$10,864	\$9,962.00000
5	Price-03	\$10,890	\$1,660.00000
6	Price-04	\$10,910	\$1,356.00000
7	Price-06	\$10,950	\$1,375.00000
8	Price-07	\$10,970	\$1,360.00000
9	Price-09	\$11,010	\$1,390.00000
10	Price-10	\$11,030	\$1,395.00000
11		\$109,394	\$22,303.00000



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The screenshot shows the Salesforce Lightning interface for a 'Jewellery Inventory' application. The top navigation bar includes tabs for 'Reports', 'Sample...', 'Priya | ...', 'Arjun | ...', 'Sneha I...', 'Vishal | ...', 'Gold S...', 'Billings...', and 'More'. A search bar at the top right says 'Search...'. Below the navigation is a sidebar with sections for 'Recent', 'Reports' (with sub-sections 'Recent', 'Created by Me', 'Private Reports', 'Public Reports', and 'All Reports'), 'Folders' (with sub-sections 'All Folders', 'Created by Me', 'Shared with Me'), and 'Favorites' (with sub-section 'All Favorites'). The main content area displays a table of reports:

	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	Billings with Customer Orders Report		Private Reports	Dhivya J	9/7/2025, 2:58 AM	
Created by Me	Billings with Items report		Private Reports	Dhivya J	9/7/2025, 2:56 AM	
Private Reports	Item with Billings Report		Private Reports	Dhivya J	9/7/2025, 2:51 AM	
Public Reports	Price Report		Private Reports	Dhivya J	9/7/2025, 2:08 AM	

● Dashboards:

Dashboards are created by the records of the objects.

The screenshot shows the Salesforce Lightning interface for a 'Jewellery Inventory' application. The top navigation bar includes tabs for 'Reports', 'Dashboards', 'Sample...', 'Priya | ...', 'Arjun | ...', 'Sneha I...', 'Vishal | ...', 'Gold S...', 'Dashb...', and 'More'. A search bar at the top right says 'Search...'. Below the navigation is a sidebar with sections for 'Recent', 'Reports' (with sub-sections 'Recent', 'Created by Me', 'Private Reports', 'Public Reports', and 'All Reports'), 'Folders' (with sub-sections 'All Folders', 'Created by Me', 'Shared with Me'), and 'Favorites' (with sub-section 'All Favorites'). The main content area shows a 'Dashboard 1' grid. A modal window titled 'Add Widget' is open, showing options to 'Report' (selected 'Price Report'), 'Display As' (selected 'Table'), and 'Groups' (selected 'None'). The 'Preview' section shows a table titled 'Price Report' with the following data:

Price	Gold Price	Silver Price
Price-01	\$11k	\$9,96200k
Price-02	\$11k	\$1,35000k
Price-03	\$11k	\$1,38000k
Price-04	\$11k	\$1,35600k
Price-05	\$11k	\$1,37000k
Price-06	\$11k	\$1,37500k
Price-07	\$11k	\$1,38000k

At the bottom of the modal are 'Cancel' and 'Add' buttons.



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The screenshot shows a Salesforce Lightning interface with a top navigation bar and a dashboard titled "Dashboard 1". The dashboard contains a table titled "Price Report" with the following data:

Price	Gold Price	Silver Price
Price-01	\$11k	\$9.96200k
Price-02	\$11k	\$1.35000k
Price-03	\$11k	\$1.36000k
Price-04	\$11k	\$1.35600k
Price-05	\$11k	\$1.37000k
Price-06	\$11k	\$1.37500k
Price-07	\$11k	\$1.36000k

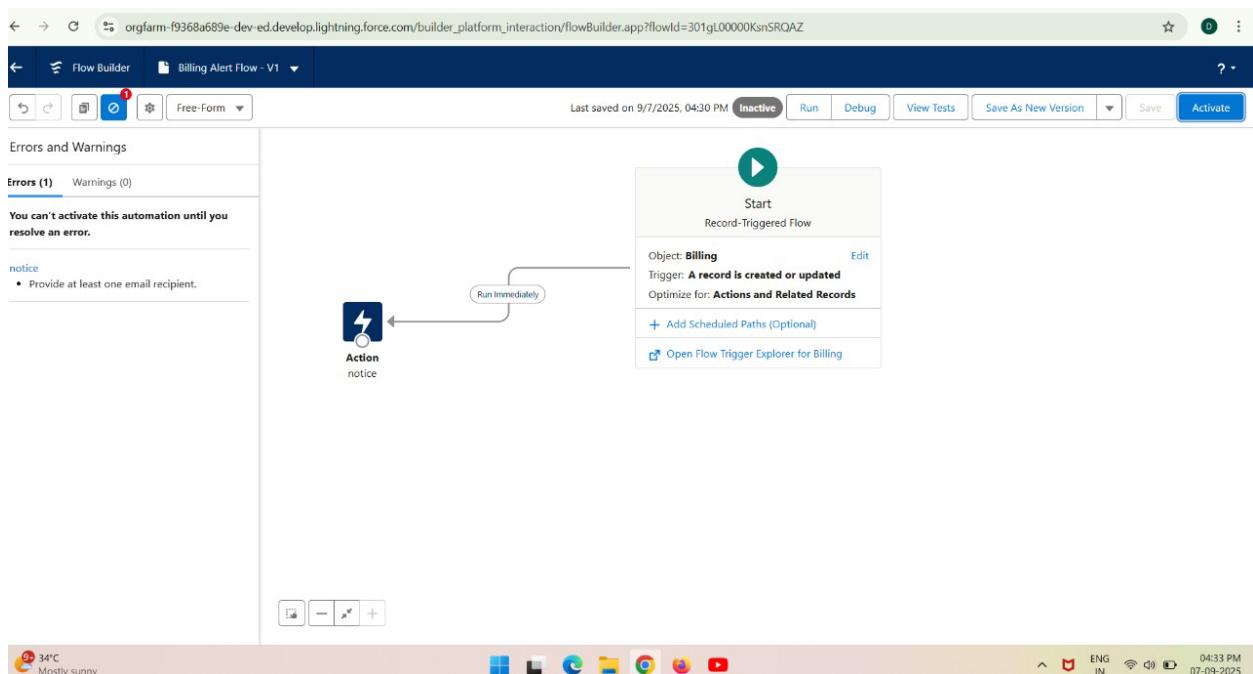
At the bottom left of the dashboard, there is a link "View Report (Price Report)" and at the bottom right, a timestamp "As of Sep 7, 2025, 3:05 AM".

- **Flows:**

A flow is a powerful tool that allows you to automate business processes, collect and update data, and guide users through a series of screens or steps. Flows are built using a visual interface.



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SOURCE CODE

Provided in Apex Class and Triggers

UpdatePaidAmountTriggerHandler.apxt:

```
Public class UpdatePaidAmountTriggerHandler {  
    Public static void  
    handleBeforeInsert(List<Billing__c> newBillings) {  
        For (Billing__c billing : newBillings) {  
            Billing.Paid_Amount__c =  
            billing.Paying_Amount__c;  
        }  
    }  
}
```



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HandleBeforeUpdate.apxc:

```
public static void handleBeforeUpdate(Map<Id,  
Billing__c> oldBillingsMap, List<Billing__c>  
updatedBillings) {  
  
    for (Billing__c billing : updatedBillings) {  
  
        Billing__c oldBilling =  
oldBillingsMap.get(billing.Id);  
  
        Decimal oldPaidAmount =  
oldBilling.Paid_Amount__c;  
  
        billing.Paid_Amount__c = oldPaidAmount +  
billing.Paying_Amount__c;  
  
    }  
  
}  
}
```

UpdatePaidAmountTrigger.apxc:

```
Trigger UpdatePaidAmountTrigger on Billing__c  
(before insert, before update) {  
  
    If (Trigger.isInsert) {  
  
        UpdatePaidAmountTriggerHandler.handleBeforeInse  
rt(Trigger.new);
```



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```
} else if (Trigger.isUpdate) {  
    UpdatePaidAmountTriggerHandler.handleBeforeUpdate(Trigger.oldMap, Trigger.new);  
}  
}
```

ADVANTAGES OF CRM JEWEL MANAGEMENT

1. Automatic live gold/silver price updates for accurate billing.
2. Tracks pledged/mortgaged ornaments with due dates and interest.
3. Maintains stone details (weight, type, cost) and custom design catalogues.
4. Generates transparent bills showing purity %, stone weight, and extra charges.
5. Manages warranty, polishing, and after-sale services for jewelry.
6. Handles bulk wedding or ceremonial orders with special workflows.
7. Provides multi-branch access to customer and inventory data.
8. Builds stronger trust with customers through



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detailed transaction history.

DISADVANTAGES OF CRM JEWEL MANAGEMENT

1. Over-customization for jewel-specific needs may complicate the system.
2. Failure in fetching live gold/silver prices can cause billing errors.
3. Storing large catalogues with images and designs may slow down the CRM.
4. Resistance from jewelers who rely on traditional/manual practices.
5. Ensuring smooth use on mobiles/tablets for staff can be challenging.
6. Too much automation may reduce manual verification in billing.
7. Difficulty integrating with existing offline tools (Excel, Tally, etc.).
8. High sensitivity of customer data requires strict KYC and compliance checks.

CONCLUSION

The CRM application for jewel management



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streamlines customer handling, billing, and inventory with greater accuracy and transparency. Despite challenges like customization and data sensitivity, its benefits in trust-building, efficiency, and business growth outweigh the drawbacks. Overall, it is a valuable tool for modernizing jewelry management.



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