

CRM Application for Jewel Management

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Project Overview :

The CRM Application for Jewel Management is a software solution designed to help jewelry businesses efficiently manage their customers, inventory, sales, and services. Unlike generic CRM systems, this application focuses on the specific needs of jewelers, such as tracking jewelry items by karat, weight, stone type, and certification, while also maintaining strong customer relationships.

The system provides a centralized platform where jewelers can:

Store and manage detailed customer information.

Track inventory of gold, silver, diamond, and platinum jewelry.

Handle billing, invoices, repairs, and returns.

Generate insights and sales reports for business decisions.

Improve customer loyalty through personalized offers and reminders.

By automating routine tasks and offering analytics, the application reduces manual work, increases accuracy in billing and inventory, and supports targeted marketing campaigns. It benefits both small jewel shops and multi-branch jewelry chains by streamlining operations and enhancing customer satisfaction.

Objectives :

1. Customer Relationship Management - Maintain detailed customer profiles including purchase history, preferences, and loyalty points to build long-term relationships.
2. Efficient Inventory Control - Track jewelry items based on karat, weight, stone type, and certification, with real-time stock updates and low-stock alerts.
3. Sales & Billing Automation - Generate accurate invoices with GST/tax calculations, discounts, and installment options, reducing manual errors.

4. Order C Repair Management - Manage custom jewelry orders, repair requests, returns, and exchanges seamlessly.
5. Analytics C Reporting - Provide business insights through sales reports, profit analysis, and customer behavior tracking for better decision-making.
6. Marketing C Notifications - Send personalized offers, festival greetings, and reminders (birthdays/anniversaries) via SMS/Email to improve customer engagement.
7. Security C User Roles - Ensure secure access through authentication and assign role-based permissions (Admin, Sales Executive, Accountant).
8. Multi-Branch Support - Allow centralized management for jewelry businesses operating across multiple branches.

Student Outcomes :

1. Practical Application of CRM Concepts - Gained knowledge on how CRM systems work in real-world industries, especially in the jewelry domain.
2. System Design C Development Skills - Learned how to analyze requirements, design ER diagrams, and develop modules like customer, inventory, sales, and billing management.
3. Technical Skills Enhancement - Improved skills in frontend (React/Angular/Flutter), backend (Node.js/Django), database (MySQL/PostgreSQL), and API integration.
4. Problem-Solving Ability - Applied logical thinking to solve challenges like inventory tracking, order management, and secure billing.
5. Team Collaboration C Project Management - Experienced working as a team, dividing modules, using version control (GitHub), and following SDLC stages.
6. Data Handling C Analytics - Learned how to generate and analyze sales/customer reports for decision-making.
7. Real-World Business Understanding - Understood jewelry business processes (karat/weight tracking, repairs, loyalty programs) and translated them into software solutions.
8. Professional Presentation - Enhanced ability to document, present, and demonstrate a complete project to evaluators and industry professionals

System Requirements :

Hardware Requirements:

- * Computer with min/sum 4 GB RAM, Dual-core processor
- * Stable internet connection

Software Requirements:

- * Salesforce Developer Edition Org
- * Modern Web Browser (e.g., Google Chrome, Firefox)

Project Duration :

31 Hours

Phases Overview :

Phase No.

Phase Name Description Page Numbers

1 Requirement

Analysis C Planning

Gathering requirements from
donors, volunteers, and receivers;
defining scope and goals; planning
data model and workflows.

2 Salesforce

Development -

Backend C

Configurations

Creating custom objects, fields,
relationships; setting up Flows
and Apex Triggers for
automation.

4 - 11

3 UI/UX Development

C Customization

Building Lightning App,

customizing layouts, adding fields,
implementing Flows, and
developing UI logic.

11 - 28

4 Data Migration,
Testing C Security
Creating Users, Profiles, Public
Groups, Sharing Rules;
configuring Report Types, Reports, Dashboards; testing functionalities and ensuring data security.

28 - 37

5 Deployment,
Documentation C
Maintenance
Designing and finalizing Home
Page, deploying solution to live
environment, preparing
documentation, conclusion, and
ongoing system maintenance.

37 - 40

Phase 1: Requirement Analysis s Planning:-

CRM Application for Jewel Management - (Developer)

The Jewel Inventory System is a comprehensive software Solution designed to streamline and manage the inventory and sales processes of a jewellery store or a jewellery manufacturer. The system aims to provide an efficient and user-friendly solution to track and control the inventory of various jewellery items, maintain accurate records, and facilitate seamless sales transactions.

What you'll learn

1. Real Time Salesforce Project
2. Data Modelling
3. Creating an Application
4. User Interface Customization
5. Object & Relationship in Salesforce
6. Formula fields and Validation rules.
7. Field Dependencies
8. Record Types
9. Cross object formula fields.
10. Conditional formatting.
11. Flows
12. Email alerts and email templates
13. Reports & Dashboards

Phase 2: Salesforce Development - Backend s Configurations:-

Milestone 1: Salesforce

Introduction:

Are you new to Salesforce? Not sure exactly what it is, or how to use it? Don't know where you should start on your learning journey? If you've answered yes to any of these questions, then you're in the right place. This module is for you.

Welcome to Salesforce! Salesforce is game-changing technology, with a host of productivity-boosting features, that will help you sell smarter and faster. As you work toward your badge for this module, we'll take you through these features and answer the question, "What is Salesforce, anyway?".

What Is Salesforce?

Salesforce is your customer success platform, designed to help you sell, service, market, analyze, and connect with your customers.

Salesforce has everything you need to run your business from anywhere. Using standard products and features, you can manage relationships with prospects and customers, collaborate and engage with employees and partners, and store your data securely in the cloud.

So what does that really mean? Well, before Salesforce, your contacts, emails, follow-up tasks, and prospective deals might have been organised something like this:

<https://youtu.be/r9EX3IGde5k>

Activity 1: Creating Developer Account

Creating a developer org in salesforce.

1. Go to <https://developer.salesforce.com/signup>
2. On the sign up form, enter the following details :

Build enterprise-quality apps fast and get hands-on with Agentforce and Data Cloud.

Sign up for your Developer Edition.

- ✓ Build apps fast with drag-and-drop tools
- ✓ Go further with Apex code
- ✓ Build AI agents with Agentforce
- ✓ Harmonize your data with Data Cloud
- ✓ Ground Agentforce with structured and unstructured data
- ✓ Integrate with anything using APIs

Agentforce

Customer Support

Sales Coach

Steps
1 Select Type

First name: sanjay

Last name: p

Job title: Developer

Work email: sanjayktom@gmail.com

Company: Nandha arts and scie

Country/Region: India

Your org may be provisioned on or migrated to Hyperforce, Salesforce's public cloud infrastructure.

I agree to the Main Services Agreement – Developer Services and Salesforce Program Agreement. I acknowledge, as described in the Developer Documentation: (1) the Developer Edition includes autonomous and other generative AI features; and (2) Salesforce may limit use of those features and the org, and may terminate any org that has been inactive for 45 days.

We value your privacy. To learn more, visit our [Privacy Statement](#).

I'm not a robot

reCAPTCHA is changing its terms of service.
[Take action](#)

1. Email
2. Email
3. Role : Developer
4. Company : College Name
5. County : India
6. Postal Code : pin code
7. Username : should be a combination of your name and company

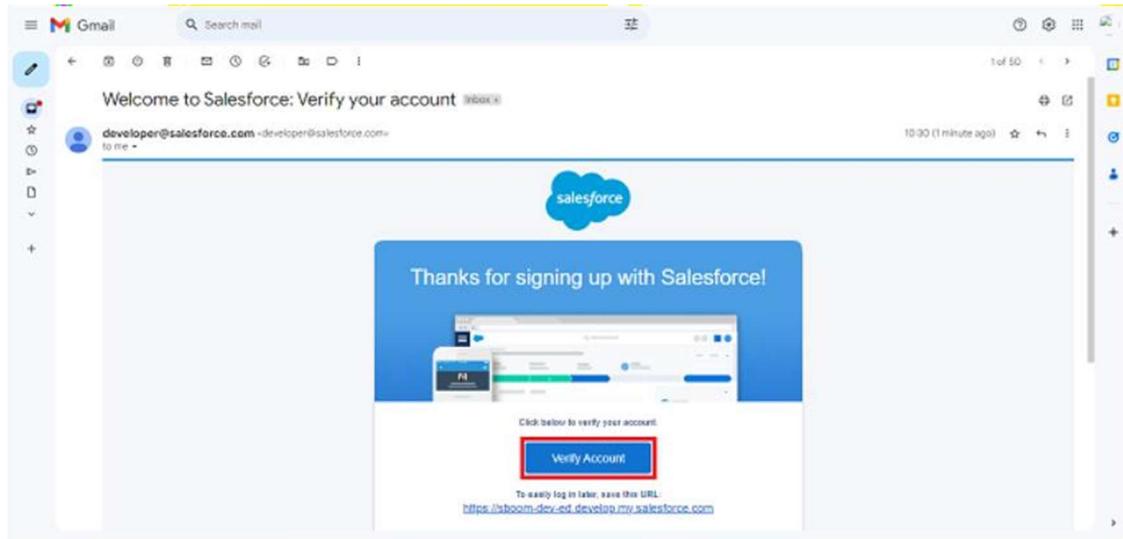
This need not be an actual email id, you can give anything in the format :

username@organization.com

Click on sign me up after filling these.

Activity 2: Account Activation

1. Go to the inbox of the email that you used while signing up. Click on the verify account to activate your account. The email may take 5-10mins.



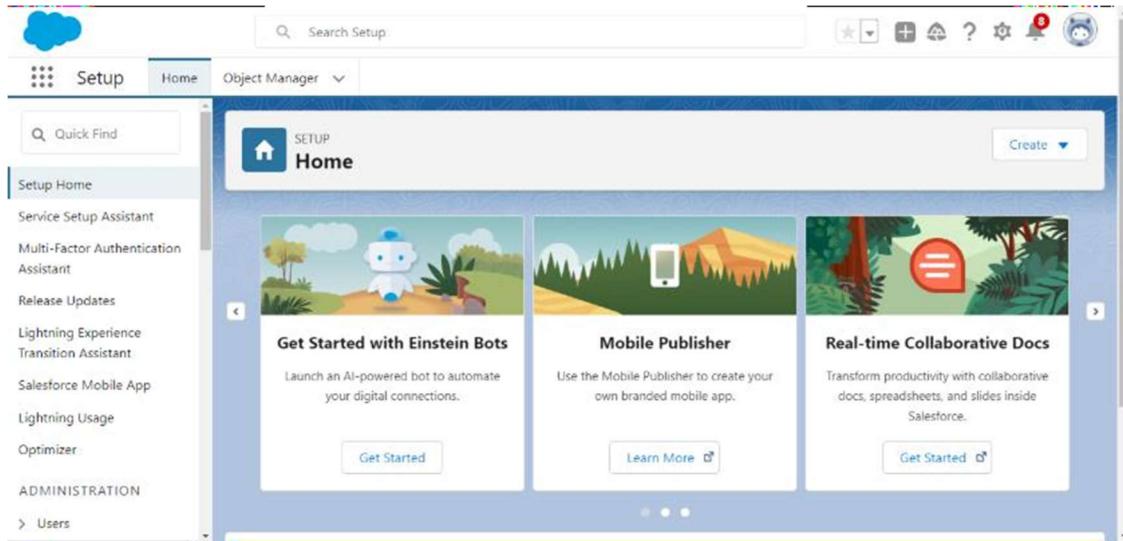
2. Click on Verify Account
3. Give a password and answer a security question and click on change password.

The screenshot shows the "Change Your Password" page. The title is "Change Your Password". A sub-instruction says "Enter a new password for lead@sboom.com. Make sure to include at least:" followed by three requirements with green checkmarks:

- ✓ 8 characters
- ✓ 1 letter
- ✓ 1 number

Below these requirements is a form field labeled "* New Password" containing a password (represented by dots) and a "Good" status indicator. This entire section is highlighted with a red box. Below this is another form field labeled "* Confirm New Password" containing a password (dots) and a "Match" status indicator. Further down is a "Security Question" section with a dropdown menu showing "In what city were you born?". Underneath is an "Answer" field containing the text "asdfghjk!" and a "Change Password" button at the bottom, also highlighted with a red box.

4. Then you will redirect to your salesforce setup page.



Milestone 2: Object

What Is an Object?

Salesforce objects are database tables that permit you to store data that is specific to an organization. What are the types of Salesforce objects

Salesforce objects are of two types:

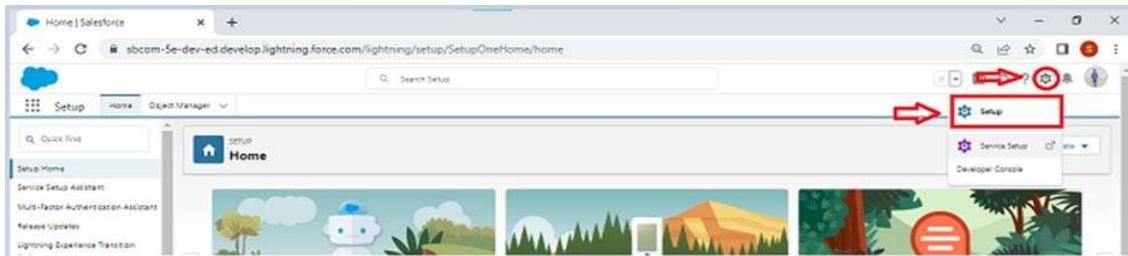
1. Standard Objects: Standard objects are the kind of objects that are provided by salesforce.com such as users, contracts, reports, dashboards, etc.
2. Custom Objects: Custom objects are those objects that are created by users. They supply information that is unique and essential to their organization. They are the heart of any application and provide a structure for sharing data.

Use Case:

Creating an object in Salesforce organisation is essential for efficient data management and process automation. By defining custom objects, businesses can structure and store data specific to their needs, enabling streamlined workflows, personalized reporting, and enhanced user experiences. Objects serve as the foundation for organizing and leveraging critical information within Salesforce.

To Navigate to Setup page:

Click on gear icon >> click setup.



Activity 1: Create Jewel Customer Object

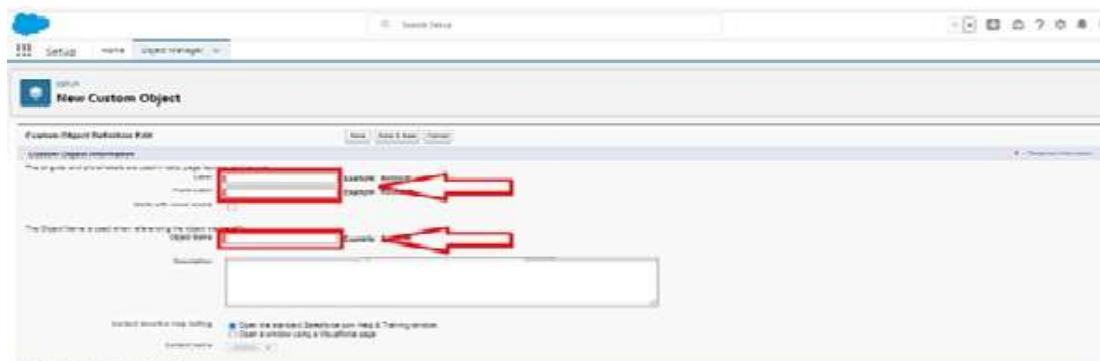
The purpose of creating a Jewel Customer custom object is to store and manage information about Customer.

To create an object:

1. From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.



1. Enter the label name : Jewel Customer
2. Plural label name : Jewel Customers



3. Enter Record Name Label and Format
 - Record Name >> Customer name
 - Data Type >> Text

The screenshot shows the 'Enter Record Name Label and Format' section with 'Record Name' set to 'Customer' and 'Data Type' set to 'Text'. Below it, the 'Optional Features' section includes checked boxes for 'Allow Reports' and 'Allow Sharing', and unchecked boxes for 'Allow Activities', 'Track Field History', 'Allow in Chatter Groups', and 'Enable Licensing'. The 'Object Classification' section indicates the object is an Enterprise Application object. The 'Deployment Status' section shows 'Deployed' is selected.

2. Click on Allow reports.
3. Allow search and click Save.

Activity 2: Create Item Object

The purpose of creating a Item object is to manage the inventory of gold and silver items.

To create an object:

1. From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.
1. Enter the label name >> Item
2. Plural label name >> Items
3. Enter Record Name Label and Format
 - Record Name >> Item Id
 - Data Type >> Auto Number
 - Display Format >> Item-{00}
 - Starting Number >> 1
2. Click on Allow reports.
3. Allow search >> Save.

Note:Create 3 more objects with label names as Customer Order,Price,Billing

(Use "Auto Number" as a data type for Customer Order,Price,Billing).

Milestone 3: Tabs

What is Tab: A tab is like a user interface that is used to build records for objects and to view the records in the objects.

Types of Tabs:

1. Custom Tabs

Custom object tabs are the user interface for custom applications that you build in salesforce.com. They look and behave like standard salesforce.com tabs such as accounts, contacts, and opportunities.

2. Web Tabs

Web Tabs are custom tabs that display web content or applications embedded in the salesforce.com window. Web tabs make it easier for your users to quickly access content and applications they frequently use without leaving the salesforce.com application.

3. Visualforce Tabs

Visualforce Tabs are custom tabs that display a Visualforce page. Visualforce tabs look and behave like standard salesforce.com tabs such as accounts, contacts, and opportunities.

4. Lightning Component Tabs

Lightning Component tabs allow you to add Lightning components to the navigation menu in Lightning Experience and the mobile app.

5. Lightning Page Tabs

Lightning Page Tabs let you add Lightning Pages to the mobile app navigation menu. Lightning Page tabs don't work like other custom tabs. Once created, they don't show up on the All Tabs page when you click the Plus icon that appears to the right of your current tabs. Lightning Page tabs also don't show up in the Available Tabs list when you customize the tabs for your apps.

Use Case:

Creating Objects and storing Jewels data is the very first step in the requirements they want. Now to access the stored data by an Owner(Gold Smith) in the organisation Admin needs to create Tabs. By designing a dedicated Tab, businesses can improve user experience, simplify navigation, and provide quick access to critical information, enhancing productivity and ensuring efficient utilisation of Salesforce's capabilities.

Activity 1: Creating a Custom Tab

To create a Tab:(Customer)

1. Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)

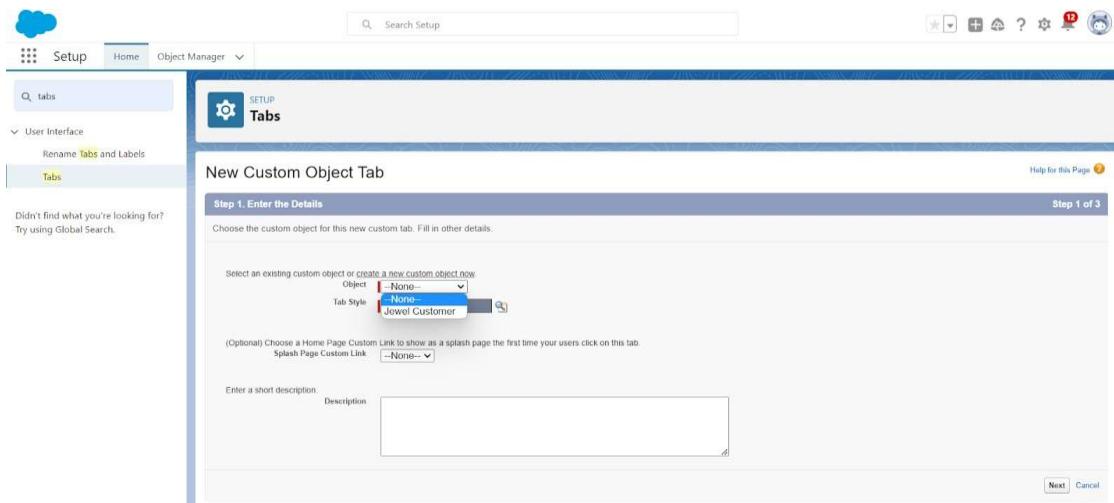
Custom Tabs

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 pages. Lightning Component tabs allow you to add Lightning components to the navigation bar. Tabs let you add Lightning Pages to Lightning Experience and the mobile app.

The screenshot shows the Salesforce Setup interface with two main sections: 'Custom Object Tabs' and 'Web Tabs'. Both sections have a 'New' button highlighted with a red box. The 'Custom Object Tabs' section displays the message 'No Custom Object Tabs have been defined'. The 'Web Tabs' section displays the message 'No Web Tabs have been defined'.

2. Select Object(Jewel Customer) >> Select any tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) keep it as default >> Save.



Activity 2: To create a Tab:(Item)

1. Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)
2. Select Object(Item) >> Select the tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) keep it as default >> Save.

Note: Now create tabs for Customer Order, Price, Billing objects.

Milestone 4: The Lightning App

An app is a collection of items that work together to serve a particular function. In Lightning Experience, Lightning apps gives users access to sets of objects, tabs, and other items all in one convenient bundle in the navigation bar.

Lightning apps let you brand your apps with a custom color and logo. You can even include a utility bar and Lightning page tabs in your Lightning app. Members of your org can work more efficiently by easily switching between apps.

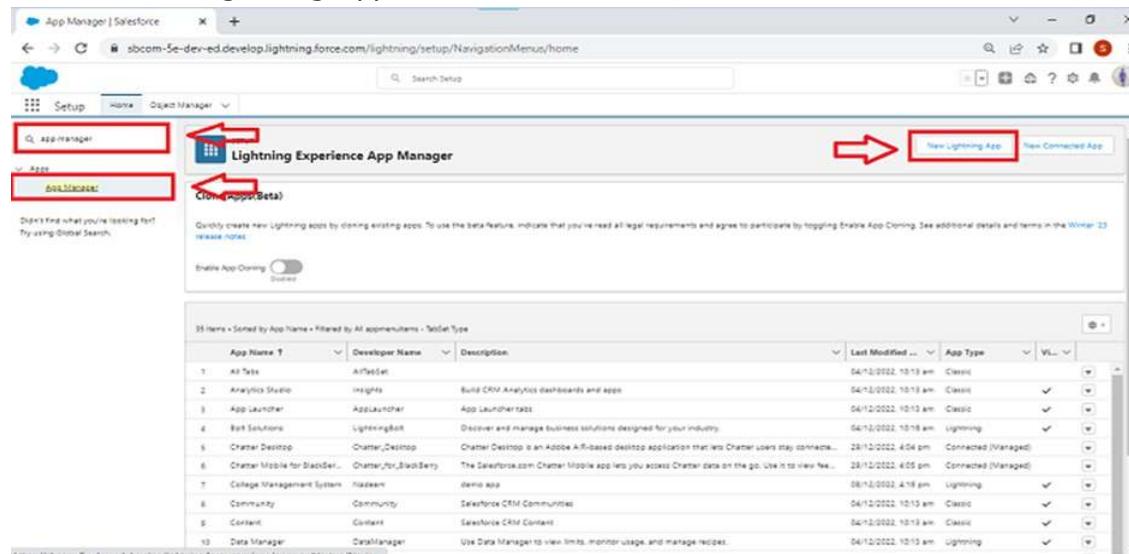
Use Case:

Well done you have reached close to your requirement by creating the objects to store the organization's data. Making a database for an organization is just not enough to reach out the requirements, the task is how the users at the organization can access the objects you have created for them. As an Admin for the organization it's your duty to make sure every user of the organization is able to access the data modelling structure.

Activity 1: Create a Lightning App

To create a lightning app page:

1. Go to setup page >> search “app manager” in quick find >> select “app manager” >>
2. click on New lightning App.



The screenshot shows the Salesforce App Manager interface. At the top, there are three search bars: 'App Manager', 'Setup', and 'Object Manager'. Below these is a header with the title 'Lightning Experience App Manager' and a sub-header 'Clone Apps(Beta)'. To the right of the sub-header is a red box highlighting the 'New Lightning App' button. The main area displays a table of existing apps, with the first few rows listed below:

App Name	Developer Name	Description	Last Modified	Type
All Tabs	ArifSiddiq	Build CRM Analytics dashboards and apps	04/12/2022, 10:13 am	Classic
Analytics Studio	Insights	Build CRM Analytics dashboards and apps	04/12/2022, 10:13 am	Classic
App Launcher	AppLauncher	App Launcher	04/12/2022, 10:13 am	Classic
Bar Solutions	LightningBar	Discover and manage business solutions designed for your industry	04/12/2022, 10:18 am	Lightning
Chatter Desktop	Chatter	Chatter Desktop is an Adobe AIR-based desktop application that lets Chatter users stay connected to their social network from their desktop computer.	28/12/2022, 4:04 pm	Connected (Managed)
Chatter Mobile for BlackBerry	ChatterForBlackBerry	The Salesforce.com Chatter Mobile app lets you access Chatter data on the go. Use it to view feed, send messages, and more.	28/12/2022, 4:05 pm	Connected (Managed)
College Management System	rasheed	demo app	08/12/2022, 4:18 pm	Lightning
Community	Community	Salesforce CRM Communities	04/12/2022, 10:13 am	Classic
Content	Content	Salesforce CRM Content	04/12/2022, 10:13 am	Classic
Data Manager	DataManager	Use Data Manager to view limits, monitor usage, and manage recipes.	04/12/2022, 10:13 am	Lightning

3. Fill the app name in app details and branding as follow

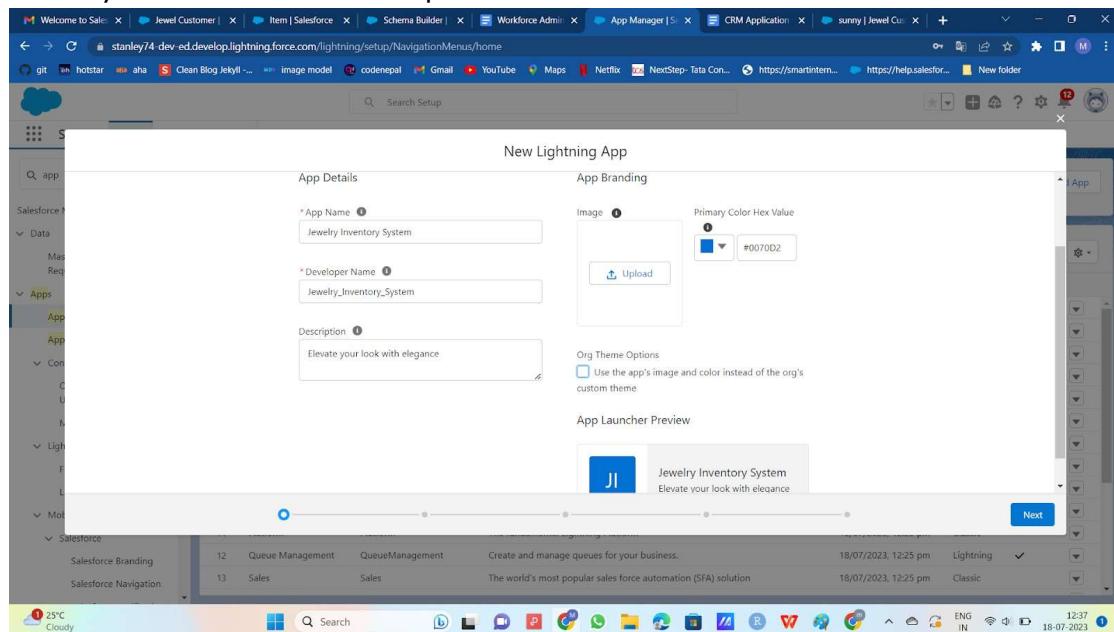
App Name : Jewellery Inventory System.

Developer Name : This will auto populated

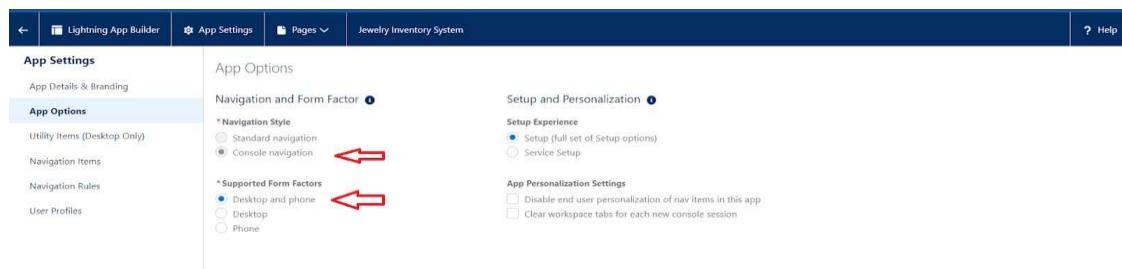
Description : Elevate your look with elegance

Image : optional (if you want to give any image you can otherwise not mandatory)

Primary colour hex value : keep this default.

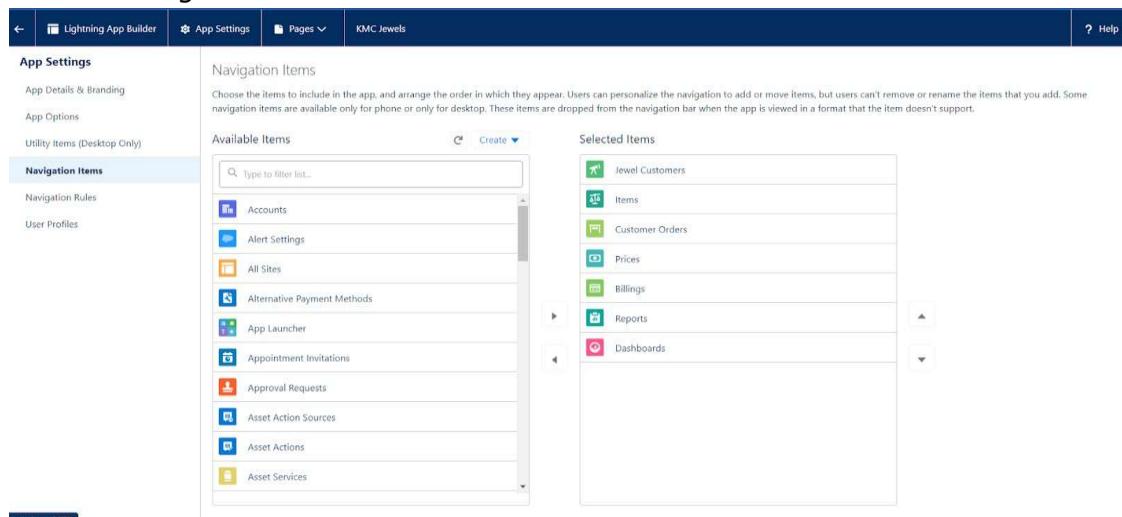


4. Then click Next >> (App option page) Set Navigation Style as Console Navigation >> Next.



4. (Utility Items) keep it as default >> Next.

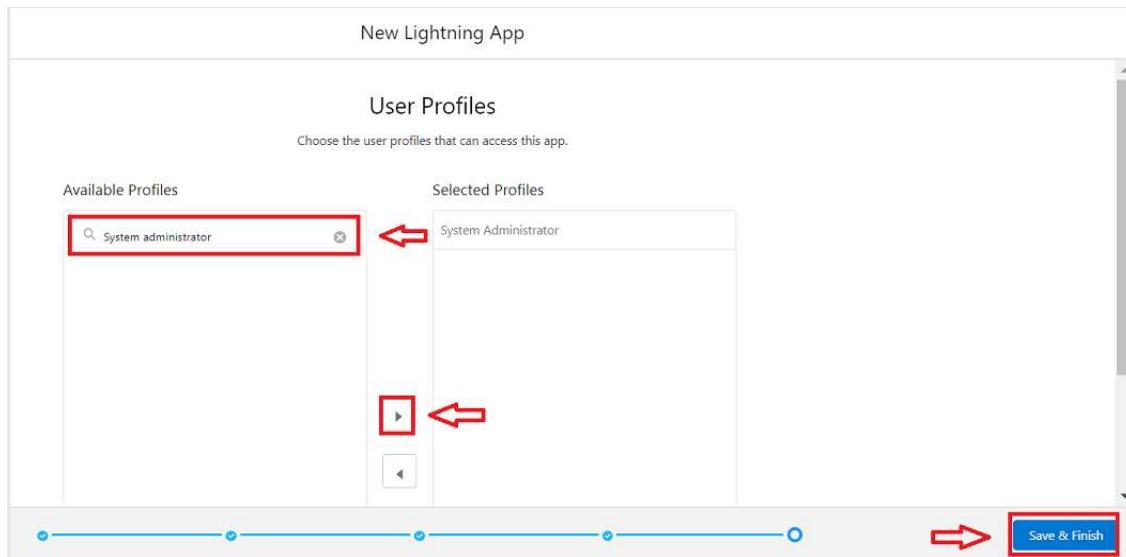
5. To Add Navigation Items:



Search for the item in the

(JewelCustomer,Item,CustomerOrder,Price,Billing,Reports, Dashboard) from the search bar and move it using the arrow button ? Next? Next.

6. To Add User Profiles:



Search profiles (System administrator) in the search bar >> click on the arrow button >> save & finish.

Milestone 5: Fields

When we talk about Salesforce, Fields represent the data stored in the columns of a relational database. It can hold any valuable information that you require for a specific object. Hence, the overall searching, deletion, and editing of the records become simpler and quicker.

Types of Fields :

1. Standard Fields
2. Custom Fields

Standard Fields:

As the name suggests, the Standard Fields are the predefined fields in Salesforce that perform a standard task. The main point is that you can't simply delete a Standard Field until it is a non-required standard field. Otherwise, users have the option to delete them at any point from the application freely. Moreover, we have some fields that you will find common in every Salesforce application. They are,

>> Created By

>> Owner

>> Last Modified

>> Field Made During object Creation

Custom Fields:

On the other side of the coin, Custom Fields are highly flexible, and users can change them according to requirements. Moreover, each organiser or company can use them if necessary. It means you need not always include them in the records, unlike Standard fields. Hence, the final decision depends on the user, and he can add/remove Custom Fields of any given form.

Use Case:

Now it's time for you to think out of the box for your organisation. You have successfully created the database objects for the organisation but now all eyes turn on you as you have to define what sort of information the objects store which you have created. As a life saver of your organisation you come up with the idea of creating fields to store different types of data.

Activity 1: Creating Lookup Relationship

A Lookup relationship is a type of relationship in Salesforce that connects two objects together based on a field known as the Lookup field. It establishes a relationship between a child object and a parent object, allowing the child object to reference the parent object.

To Create a relationship between Jewel Customer & Customer Order Objects.

1. Go to the setup page >> click on object manager >> type object name(Customer Order) in the quick find bar >> click on the object.
2. Click on fields & relationship >> click on New.
3. Select "Lookup relationship" as data type and click Next.
4. Select the related object "Jewel Customer".
5. Give Field Label as "Customer" and click Next.
6. Next >> Next >> Save.

Activity 2: Creating a Master-Detail Relationship

Master-detail relationship is a type of relationship between two objects where the master object controls certain behaviours and settings of the detail object. Here are a few use cases that demonstrate the use of master-detail relationships

Creating Master-Detail Relationship between Item & Customer Order Object.

To Create a Master-Detail relationship :

1. Go to the setup page >> click on object manager >> type object name(Customer Order) in the quick find bar >> click on the object.
2. Click on fields & relationships >> click on New.

3. Select “Master-Detail relationship” as data type and click Next.
4. Select the related object “ Item”.
5. Give Field Label as “Item” and click Next.
6. Next > Next > Save.

Activity 3: Creating Text Field in Jewel Customer Object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Jewel Customer) in quick find bar >> click on the object.

The screenshot shows the Salesforce Object Manager interface. At the top, there's a search bar with 'jewel' typed into it. Below the search bar, the 'Object Manager' tab is selected. A red arrow points to the 'jewel' search term in the search bar. The main table lists one item: 'Jewel Customer'. A red box highlights the 'Label' column for 'Jewel Customer', and a red arrow points to it. Another red arrow points to the 'New' button at the bottom right of the table.

2. Now click on “Fields & Relationships” >> New

The screenshot shows the 'Fields & Relationships' page for the 'Jewel Customer' object. On the left, there's a sidebar with options like 'Details', 'Page Layouts', 'Lightning Record Pages', and 'Buttons, Links, and Actions'. A red box highlights the 'Fields & Relationships' option, and a red arrow points to it. In the main area, there's a table listing fields: 'Country' (Type: Text(18)), 'Created By' (Type: Lookup(User)), and 'Customer Name' (Type: Text(80)). At the top of this area, there's a search bar with 'Quick Find' and a 'New' button. A red box highlights the 'New' button, and a red arrow points to it.

3. Select Data type as “Text”.

The screenshot shows a list of data types. The 'Text' option is highlighted with a red box and a red arrow pointing to it. Other options shown are 'Picklist', 'Picklist (Multi-Select)', 'Text Area', and 'Text Area (Long)'. Each option has a brief description to its right.

<input type="radio"/> Picklist	Allows users to select a value from a list you define.
<input type="radio"/> Picklist (Multi-Select)	Allows users to select multiple values from a list you define.
<input checked="" type="radio"/> Text	Allows users to enter any combination of letters and numbers.
<input type="radio"/> Text Area	Allows users to enter up to 255 characters on separate lines.
<input type="radio"/> Text Area (Long)	Allows users to enter up to 131,072 characters on separate lines.

4. Click on Next

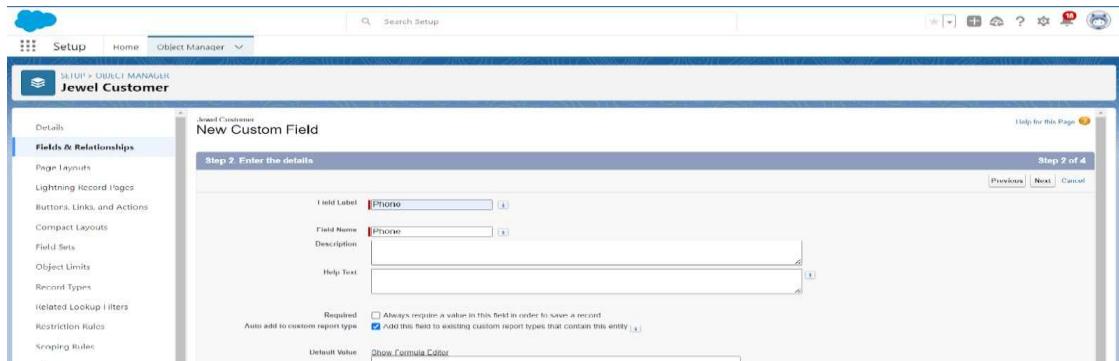


5. Fill the above as following:
 - Field Label: City
 - Length : 20
 - Field Name : gets auto generated
 - Click on Next >> Next >> Save and new.

Activity 4: Creating the Phone field in object Jewel Customer

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Jewel Customer) in quick find bar >> click on the object.
2. Now click on “Fields & Relationships” >> New
3. Select Data type as “Phone” and click Next.
4. Given the Field Label as “ Phone”.



1. Field Name will be auto populated, and click on Next >> Next >> Save & new.

Activity 5: Creating the Email field in object Jewel Customer

To create fields in an object:

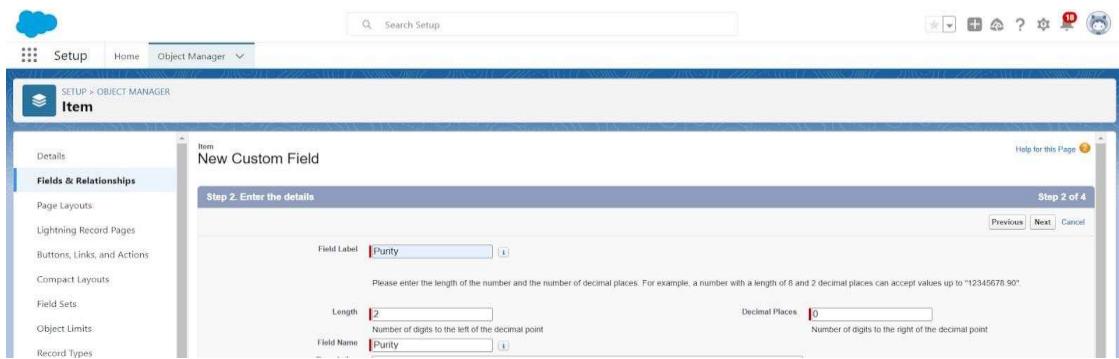
1. Go to setup >> click on Object Manager >> type object name(Jewel Customer) in quick find bar >> click on the object.
2. Now click on “Fields & Relationships” >> New
3. Select Data type as “Email” and click Next.
4. Given the Field Label as “ Email”.

- Field Name will be auto populated, and click on Next >> Next >> Save.

Activity 6: Creating the number field in Item object

To create fields in an object:

- Go to setup >> click on Object Manager >> type object name(Item) in quick find bar? click on the object.
- Now click on “Fields & Relationships” >> New
- Select Data type as “Number” and click Next.
- Given the Field Label as “ Purity” and length as “ 2 ”.

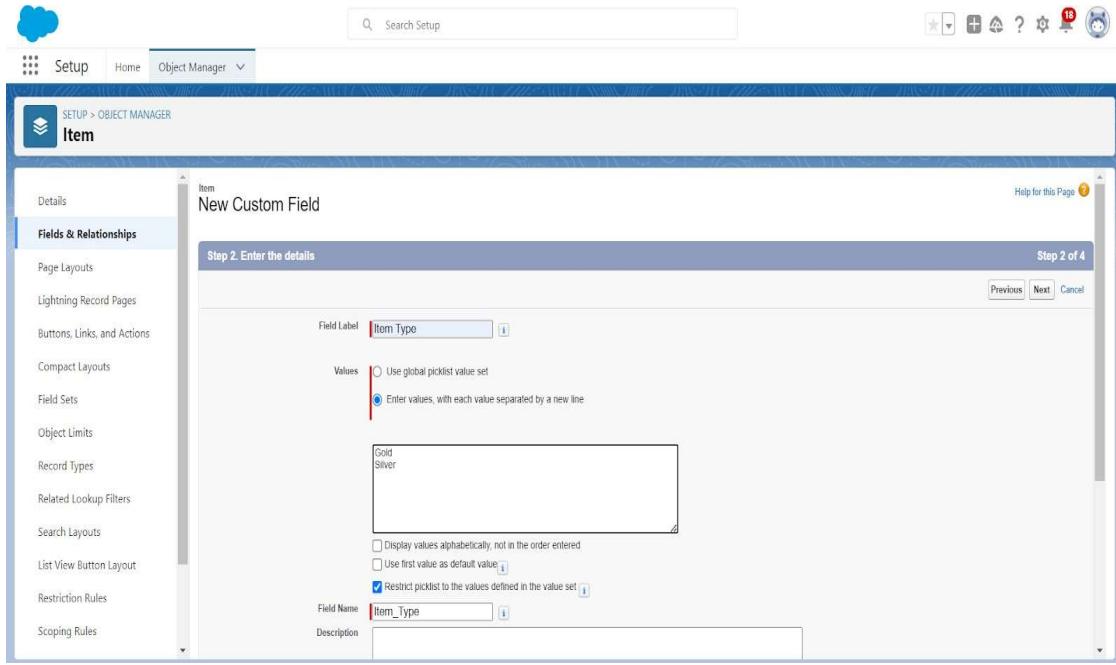


- Field Name will be auto populated, and click on Next >> Next >> Save.

Activity 7: Creating Picklist Field in Item Object

To create fields in an object:

- Go to setup >> click on Object Manager >> type object name(Item) in quick find bar>> click on the object.
- Now click on “Fields & Relationships” >> New.
- Select Data type as “Picklist” and click Next.
- Enter Field Label as “Item Type”.
- In values select “Enter values(Gold,Silver), with each value separated by a new line” and enter values as shown below.

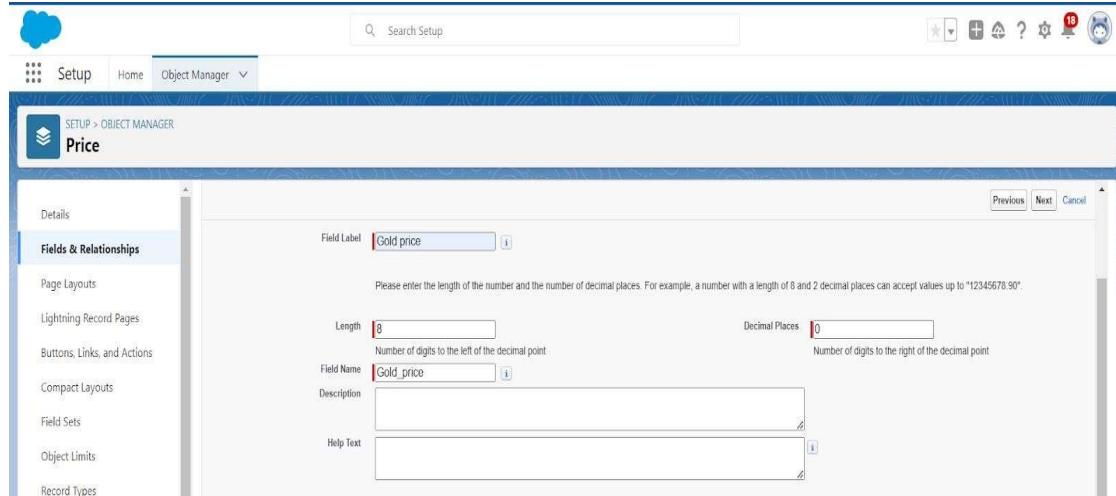


6. Click Next? Next ? Next ? Next ? Save .

Activity 8: Creating Currency Field in Price Object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Price) in quick find bar >> click on the object.
2. Now click on “Fields & Relationships” >> New.
3. Select Data type as “Currency” and click Next.



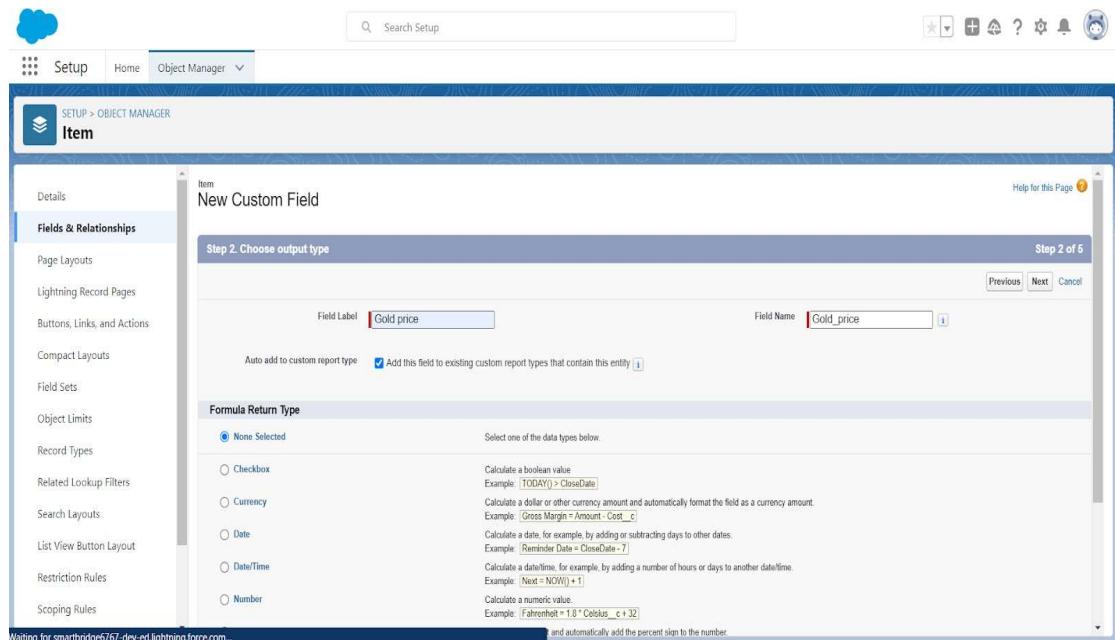
4. Enter Field Label as “Gold Price” and length as “ 8”and decimal 0.Field name will be auto generated.
5. Click Next >> Next >> Next >> Save .

Activity 9: Creating Formula Field(Cross Object) in Item Object

To create fields in an object:

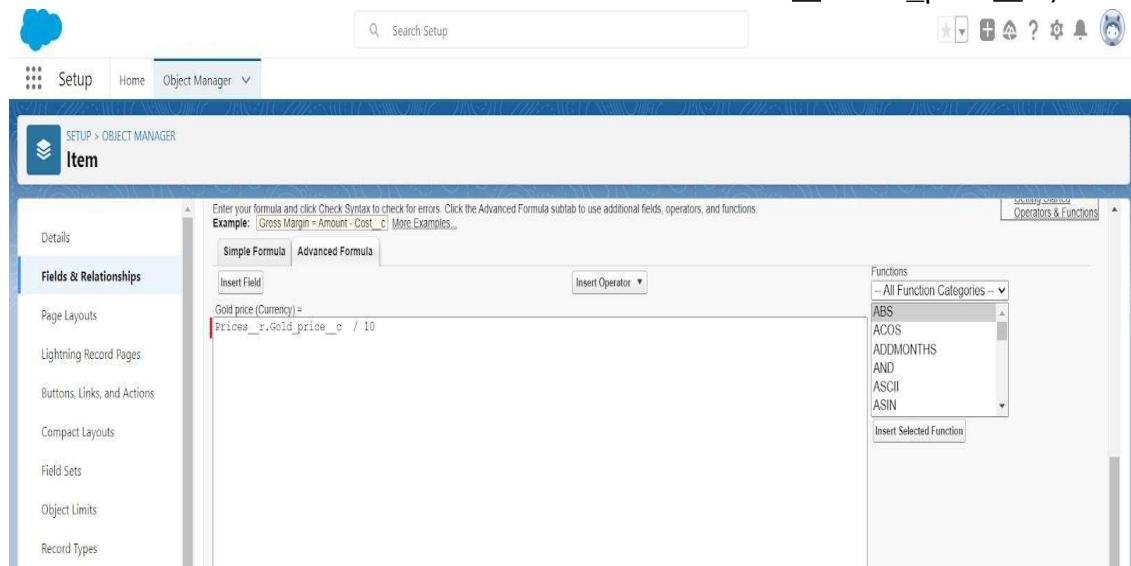
(Note:Create a Lookup Relationship in Item Object to Price Object with Field Name:Prices)

1. Go to setup >> click on Object Manager >> type object name(Item) in quick find bar? click on the object.
2. Now click on “Fields & Relationships” >> New.
3. Select Data type as “Formula” and click Next.
4. Give Field Label and Field Name as “Gold Price” and select formula return type as “Currency” and click next.



The screenshot shows the Salesforce Setup interface for creating a new custom field. The top navigation bar includes 'Setup', 'Home', and 'Object Manager'. The main title is 'Item' under 'SETUP > OBJECT MANAGER'. On the left, there's a sidebar with various options like 'Details', 'Fields & Relationships' (which is selected), and 'Page Layouts'. The main content area is titled 'New Custom Field' and is on 'Step 2 of 5'. It shows 'Field Label' as 'Gold price' and 'Field Name' as 'Gold_price'. Below these, there's a checkbox for 'Auto add to custom report type' which is checked. A note says 'Add this field to existing custom report types that contain this entity'. The 'Formula Return Type' section has 'None Selected' selected. To the right, there's a list of other options: Checkbox (Calculate a boolean value), Currency (Calculate a dollar or other currency amount and automatically format the field as a currency amount), Date (Calculate a date, for example, by adding or subtracting days to other dates), Date/Time (Calculate a datetime, for example, by adding a number of hours or days to another datetime), and Number (Calculate a numeric value).

5. Under Advanced Formula write down the formula :Prices__r.Gold_price__c / 10.



The screenshot shows the 'Advanced Formula' tab for the 'Gold price' field. The formula 'Prices__r.Gold_price__c / 10' is entered in the formula editor. The formula palette on the right lists several functions: ABS, ACOS, ADDMONTHS, AND, ASCII, ASIN, etc. The 'Operators & Functions' section is also visible.

6. click “Check Syntax” and Next >> Next >> Save & New.

Activity 10: Creating Remaining Fields in Objects

Now create the remaining fields using the data types mentioned.

s.no	Object name	Fields	
1	Jewel Customer	Field Name	Data type
		State	Text(20)
		Street	Text(20)
		Country	Text(18)
		Zip/Postal code	Text(6)

2	Price	Silver Price	Currency (Length=8,Decimal=5)
---	-------	--------------	----------------------------------

3	Item	Field Label:Customer Name	Lookup Relationship with Jewel Customer Object
		Ornament	Text(20)
		Weight	Number (Length=8,Decimal=5)

Stone Weight	Number (Length=5,Decimal=5)
Percentage	Number (Length=2,Decimal=0)
Stone/Other Price	Currency (Length=8,Decimal=2)
Expected Days Of Return	<p>Picklist</p> <p>1-3 Days 4-5 Days 6-7 Days 8-10 Days</p>
Priority	<p>Picklist</p> <p>Low Medium High Critical</p>
Silver Price	<p>Formula (Return Type:Number) (Decimal=3)</p> <hr/> <p>(Prices_r.Silver_price_c / 1000)</p> <hr/>
Purity Gold Price	<p>Formula (Return Type:Currency) (Decimal=2)</p> <hr/> <p>((Prices_r.Gold_price_c * Purity _ c) / 24) / 10</p> <hr/>
Total Weight	Formula (Return Type:Number) (Decimal=3)

		(Weight_c - Stone_weight_c)
	Amount	<p>Formula (Return Type:Currency) (Decimal=3)</p> <pre>IF(ISPICKVAL(Item_Type_c , "Gold"), Total_weight_c * Purity_Gold_price_c , Total_weight_c * Silver_price_c)</pre>
	KDM	<p>Formula (Return Type:Currency) (Decimal=0)</p> <pre>(Amount_c * Percentage_c) / 100</pre>
	Making Charges	<p>Formula (Return Type:Currency) (Decimal=0)</p> <pre>IF(ISPICKVAL(Item_Type_c , "Gold"), Weight_c * 300 , Weight_c * 10)</pre>

4	Customer Order	<table border="1"> <tr> <td>Order Status</td><td>Picklist</td></tr> <tr> <td></td><td> <ul style="list-style-type: none"> Started Not Started On Hold Completed Not Completed </td></tr> </table>	Order Status	Picklist		<ul style="list-style-type: none"> Started Not Started On Hold Completed Not Completed
Order Status	Picklist					
	<ul style="list-style-type: none"> Started Not Started On Hold Completed Not Completed 					

5

Now create the remaining fields using the data types mentioned.

s . n o j e c t n a m e	O b Fields
--	----------------------

1	J e w e l C u s t o m e r	Field Name	Data type
		State	Text(20)
		Street	Text(20)
		Country	Text(18)
		Zip/Postal code	Text(6)

2	P r i c e	Silver Price	Currency (Length=8,Decimal =5)
---	-----------------------	-----------------	--------------------------------------

3	Item	
---	------	--

F i e l d L a b e: I t e m	Lookup Relationship with Item Object
--	---

O r n a m e n t	Formula (Return Type:Text) Item_r.Ornament_c
--------------------------------------	--

S t o n e w e i g h t	Formula (Return Type:Number) (Decimal=2) Item_r.Stone_weight_c
---	--

W e i g h t	Formula Return Type:Number (Decimal=2) Item_r.Total_weight_c
----------------------------	--

			F i e l d L a b e l : C u s t o m e r N a m e	Lookup Relationship with Jewel Customer Object	A m o u n t	Formula (Return Type:Currency) (Decimal=2)
			O r n a m e n t	Text(20)	G o I d / S il v e r P r i c e	Item__r.Amount_c IF(ISPICKVAL(Item _r.Item_Type_c ," Gold"), Item__r.Gold_price_ _c , Item__r.Silver_price _c)
			W e i g h t	Number (Length=8,Decima l=5)	K D M C h a r g e	Formula (Return Type:Currency) (Decimal=0)
			S t o n e W e i	Number (Length=5,Decima l=5)	M a k i n g C h a r g e s	Item_r.Making_Ch arges_c
					S t o n	Formula (Return Type:Currency) (Decimal=2)

			g h t			e s / o t h e r p r i c e	Item__r.Stone_other _price__c
			P e r c e n t a g e	Number (Length=2,Decima l=0)		T o t a l A m o u n t	Formula (Return Type:Currency) (Decimal=0)
			S t o n e / O t h e r P r i c e	Currency (Length=8,Decima l=2)			Amount_c + KDM_Charge_c + Stones_other_price_ _c + Making_Charges_c
			E x p e c t e d D a y s C f R e t	Picklist 1-3 Days 4-5 Days 6-7 Days 8-10 Days			

u r n				
P r i o r i t y	Picklist			
	Low			
	Medium			
	High			
	Critical			
S i l i v e r P r i c e	Formula (Return Type:Number) (Decimal=3)			
	$(\text{Prices_r.Silver_price_c} / 1000)$			
P u r i t y G o l d P r i c e	Formula (Return Type:Currency) (Decimal=2)			
	$((\text{Prices_r.Gold_price_c} * \text{Purity_c}) / 24) / 10$			
T o t a l W e i	Formula (Return Type:Number) (Decimal=3)			

g h t		(Weight_c - Stone_weight_c)		
A m o u n t		Formula (Return Type:Currency) (Decimal=3)		
		IF(ISPICKVAL(I tem_Type_c , "Gold"), Total_weight_c * Purity_Gold_pric e_c , Total_weight_c * Silver_price_c)		
K D M		Formula (Return Type:Currency) (Decimal=0)		
		<hr/> (Amount_c * Percentage_c) / 100 <hr/>		
M a k i n g C h a r g e s		Formula (Return Type:Currency) (Decimal=0)		
		IF(ISPICKVAL(I tem_Type_c , "Gold"), Weight_c * 300 , Weight_c * 10)		

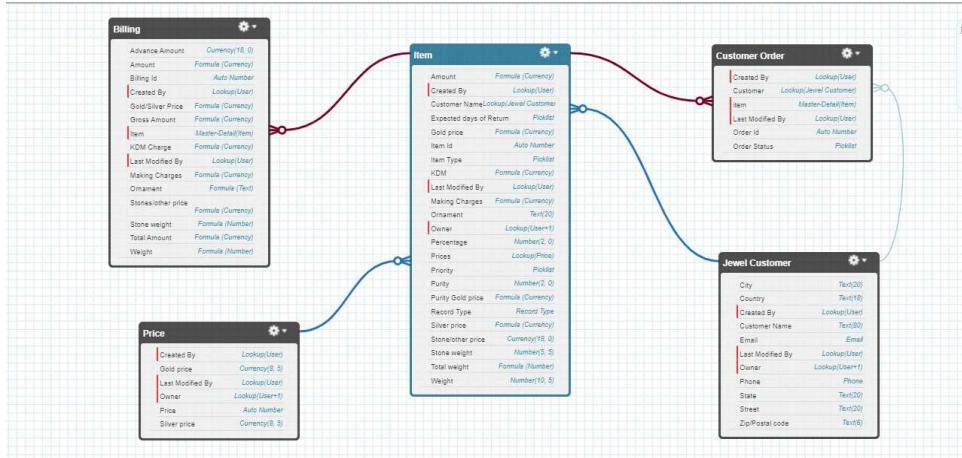
		4	Customer Order	<table border="1"> <tr><td>O</td><td>Order Status</td><td>Picklist</td></tr> <tr><td>r</td><td></td><td>Started</td></tr> <tr><td>d</td><td></td><td>Not Started</td></tr> <tr><td>e</td><td></td><td>On Hold</td></tr> <tr><td>S</td><td></td><td>Completed</td></tr> <tr><td>t</td><td></td><td>Not Completed</td></tr> <tr><td>a</td><td></td><td></td></tr> <tr><td>t</td><td></td><td></td></tr> <tr><td>u</td><td></td><td></td></tr> <tr><td>s</td><td></td><td></td></tr> </table>	O	Order Status	Picklist	r		Started	d		Not Started	e		On Hold	S		Completed	t		Not Completed	a			t			u			s																																																
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		5	Billing	<table border="1"> <tr><td>F</td><td>File Label:</td><td>Lookup Relationship with Item Object</td></tr> <tr><td>i</td><td></td><td></td></tr> <tr><td>e</td><td></td><td></td></tr> <tr><td>l</td><td></td><td></td></tr> <tr><td>d</td><td></td><td></td></tr> <tr><td>L</td><td></td><td></td></tr> <tr><td>a</td><td></td><td></td></tr> <tr><td>b</td><td></td><td></td></tr> <tr><td>e</td><td></td><td></td></tr> <tr><td>l:</td><td></td><td></td></tr> <tr><td>I</td><td></td><td></td></tr> <tr><td>t</td><td></td><td></td></tr> <tr><td>e</td><td></td><td></td></tr> <tr><td>m</td><td></td><td></td></tr> </table> <table border="1"> <tr><td>O</td><td>Ornament</td><td>Formula (Return Type:Text)</td></tr> <tr><td>r</td><td></td><td></td></tr> <tr><td>n</td><td></td><td></td></tr> <tr><td>a</td><td></td><td></td></tr> <tr><td>m</td><td></td><td></td></tr> <tr><td>e</td><td></td><td></td></tr> </table> <table border="1"> <tr><td>S</td><td>Stone</td><td>Formula (Return Type:Number) (Decimal=2)</td></tr> <tr><td>t</td><td></td><td></td></tr> <tr><td>o</td><td></td><td></td></tr> <tr><td>n</td><td></td><td></td></tr> <tr><td>e</td><td></td><td></td></tr> </table>	F	File Label:	Lookup Relationship with Item Object	i			e			l			d			L			a			b			e			l:			I			t			e			m			O	Ornament	Formula (Return Type:Text)	r			n			a			m			e			S	Stone	Formula (Return Type:Number) (Decimal=2)	t			o			n			e			
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W e i g h t		Item__r.Stone_weight_c		
W e i g h t		Formula Return Type:Number (Decimal=2)		
A m o u n t		Item__r.Total_weight_c		
G o l d / S il v e r P ri c e		Formula (Return Type:Currency) (Decimal=2)		
K D M C h a r g e		IF(ISPIKVAL(Item__r.Item_Type_c , "Gold"), Item__r.Gold_price_c , Item__r.Silver_price_c)		
		Formula (Return Type:Currency) (Decimal=0)		
		Item__r.KDM_c		

M a k i n g C h a r g e s	Formula (Return Type:Currency) (Decimal=2) Item_r.Making_Charges_c		
S t o n e s / o t h e r p r i c e	Formula (Return Type:Currency) (Decimal=2) Item_r.Stone_other_price_c		
T o t a l A m o u n t	Formula (Return Type:Currency) (Decimal=0) Amount_c + KDM_Charge_c + Stones_other_price_c + Making_Charges_c		
Billing			

Activity 11: Schema Builder

Schema Builder is a powerful tool within Salesforce that allows you to visualise, explore, and design the relationships between objects in your Salesforce organisation. It provides a graphical representation of the data model, making it easier to understand the structure and connections between different objects.

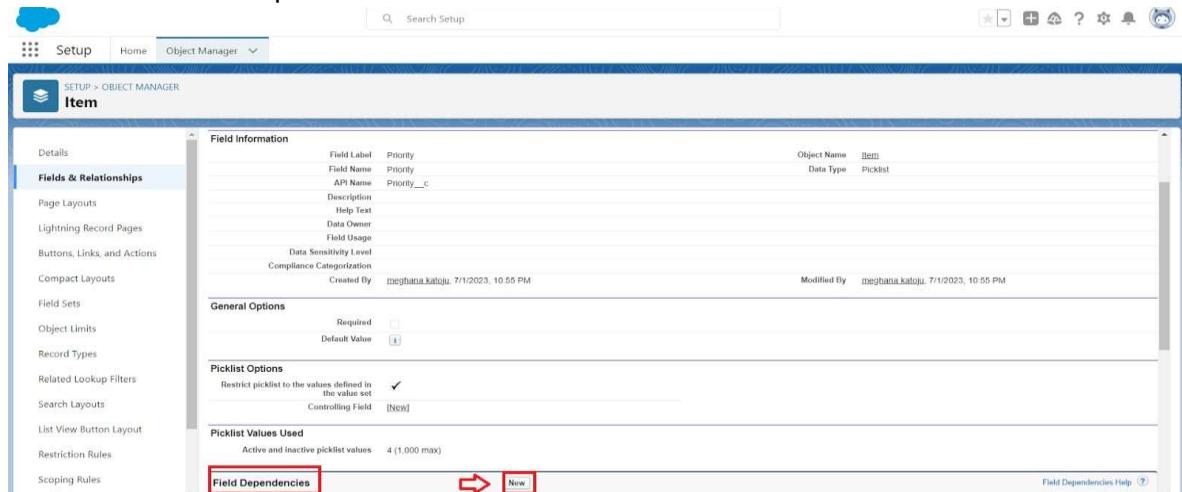


Activity 12: Creating the Field Dependencies

Use case:

Field Dependencies are used to create relationships between fields within an object. They allow you to control the visibility and availability of fields based on the values selected in other fields.

1. Go to setup >> click on Object Manager >> type object name(Item) in quick find bar >> click on the object.
2. Click on Fields & Relationships and click on the Priority field.
3. Search for Field Dependencies and click on New.



4. Select Controlling Field as "Priority" and Depending field as "Expected Days of Return" >> Continue.

New Field Dependency

Create a dependent relationship that causes the values in a picklist or multi-select picklist to be dynamically filtered based on the value selected by the user in another field.

- The field that drives filtering is called the "controlling field." Standard and custom checkboxes and picklists with at least one and less than 300 values can be controlling fields.
- The field that has its values filtered is called the "dependent field." Custom picklists and multi-select picklists can be dependent fields.

Step 1. Select a controlling field and a dependent field. Click Continue when finished.
Step 2. On the following page, edit the filter rules that control the values that appear in the dependent field for each value in the controlling field.

Controlling Field: None
Dependent Field: None

Continue Cancel

5. Select the "Expected Days of Return" values of related Priority values and Click on Include Values >> Save.

SETUP > OBJECT MANAGER Item

Details Fields & Relationships

Controlling Field: Priority
Dependent Field: Expected days of Return

Instructions

- Double click on a cell to toggle its visibility for the Controlling Field value shown in the column heading.
- To change multiple cells at once, select multiple cells and then click the Include Values or Exclude Values button to change the visibility of all selected cells at once.
- Use Shift + click to select a range of adjacent cells. Use CTRL + click to select multiple cells that are not adjacent.
- Use the Preview button to preview the results.

Legend: Excluded Value Included Value

Showing Columns: 1 - 4 (of 4) < Previous Next > View All > Go to				
Priority:	Low	Medium	High	Critical
Expected days of Return:	1-3 Days 4-5 Days 6-7 Days 8-10 Days	4-5 Days 6-7 Days 8-10 Days	6-7 Days 8-10 Days	8-10 Days

Showing Columns: 1 - 4 (of 4) < Previous | Next > View All

Click button to include or exclude selected values from the dependent picklist:

Showing Columns: 1 - 4 (of 4) < Previous | Next > View All

Click button to include or exclude selected values from the dependent picklist:

Save | Cancel | Preview

Activity 13: Creating the validation rule

Creating the validation rule for Postal Code field in Jewel Customer object

Note : check whether the fields mentioned in the formula field are created or not , if not go to activity 10 and create those fields mentioned in Jewel Customer object.

1. Go to setup >> click on Object Manager >> type object name(Jewel Customer) in quick find bar>> click on the object.
2. Click on the validation rule >> click New.

3. Enter the Rule name as “Postal Code ”.
4. Insert the Error Condition Formula as : -

AND(

OR(

LEN(Zip_Postal_code_c) <> 6, NOT(REGEX(Zip_Postal_code_c, "^[0-9]{6}\$")),
NOT(ISBLANK(Zip_Postal_code_c))

)

)

5. Enter the Error Message as “Must contain 6 digits”, select the Error location as Field and select the field as “Zip/Postal code”, and click Save.

NOTE:

Create One more Validation rule for Jewel Customer object.

1. Enter Rule name as “ValidationRule For JewelCustomerObject ”.

2. Insert the Error Condition Formula as : -


```
OR( ISBLANK( City_c ) ,
ISBLANK( Country_c ),ISBLANK( Phone_c ),ISBLANK( State_c ),ISBLANK( Street_c ) )
```
3. Enter the Error Message as “Please fill Required fields”, select the Error location as Top of Page and click Save.

Create Validation rule for Item object.

1. Enter Rule name as “ValidationRule For Item”.
2. Insert the Error Condition Formula as : -


```
OR( ISBLANK( Amount_c ) ,
ISBLANK( Customer_Name_c ),ISBLANK( Gold_price_c ),ISBLANK( KDM_c ),ISBLANK( Ornament_c ),ISBLANK( Percentage_c ),ISBLANK( Making_Charges_c ),ISBLANK( Prices_c ),ISBLANK( Stone_weight_c ),ISBLANK( Silver_price_c ),ISBLANK( Stone_other_price_c ),ISBLANK( Stone_weight_c ),ISBLANK( Weight_c ))
```
3. Enter the Error Message as “Please fill Required fields”, select the Error location as Top of Page and click Save.

Milestone 6: Profiles

A profile is a group/collection of settings and permissions that define what a user can do in salesforce. Profile controls “Object permissions, Field permissions, User permissions, Tab settings, App settings, Apex class access, Visualforce page access, Page layouts, Record Types, Login hours & Login IP ranges. You can define profiles by the user's job function. For example System Administrator, Developer, Sales Representative.

Types of profiles in salesforce

1. Standard profiles:
By default salesforce provides below standard profiles.

- Contract Manager
- Read Only
- Marketing User
- Solutions Manager
- Standard User
- System Administrator.

We cannot deleted standard ones

Each of these standard ones includes a default set of permissions for all of the standard objects available on the platform.

2. Custom Profiles:
Custom ones defined by us.
They can be deleted if there are no users assigned with that particular one.

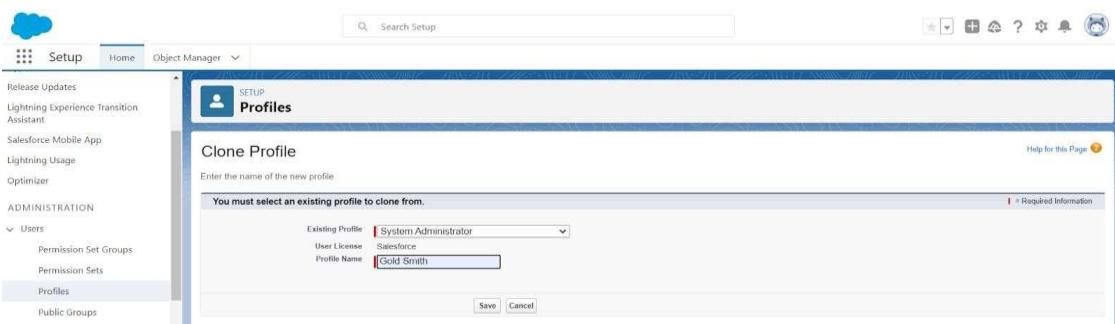
Use Case:

Great work Admin, you have done so good till now. The GoldSmith wants to differentiate the users based on their functionalities, position and based on this those users need to have the minimum access to the database object in the organisation. Now it's time to use your Admin skills to focus on the users, their functionality and position in the organisation in order to achieve the Goldsmith Smith requirements.

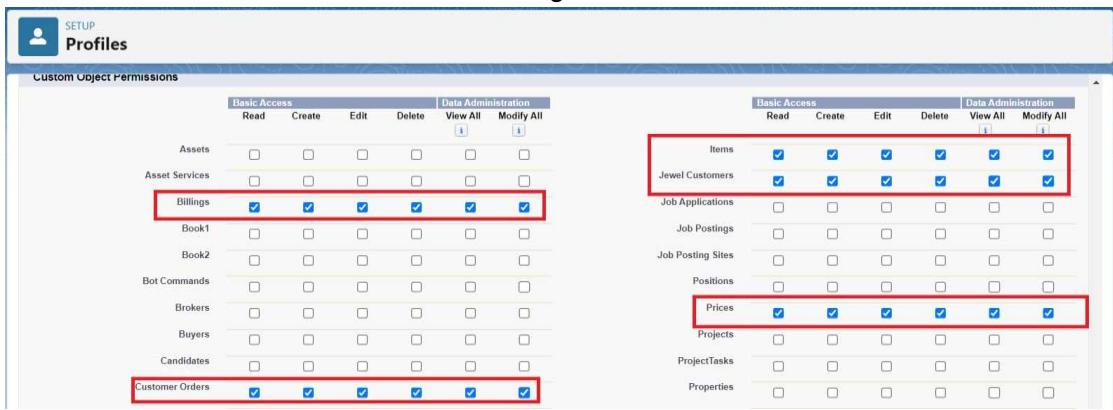
Activity 1: Gold Smith Profile

To create a new profile:

1. Go to setup >> type profiles in quick find box >>click on profiles ? clone the desired profile (System Administrator) >> enter profile name (Gold Smith) >> Save.



2. While still on the profile page, then click Edit.
3. Scroll down to Custom Object Permissions and Give access permissions for Jewel Customer,Item,Customer Order,Prices,Billings .



4. Scroll down and Click on Save.

Milestone 7: Roles

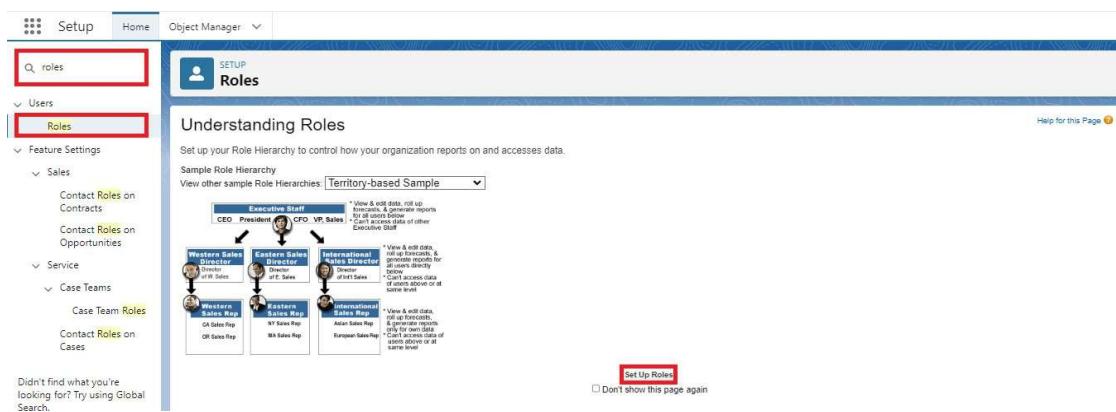
A role in Salesforce defines a user's visibility access at the record level. Roles may be used to specify the types of access that people in your Salesforce organisation can have to data. Simply put, it describes what a user could see within the Salesforce organisation.

Use Case:

You have successfully fulfilled the 1st requirement i.e., differentiating the users based on the functionality. Now comes the 2nd task of differentiating the users based on their position, using your excellent admin skills and expanding the custom roles for the organisation and assigning it to the users.

Activity 1: Creating Gold Smith Role

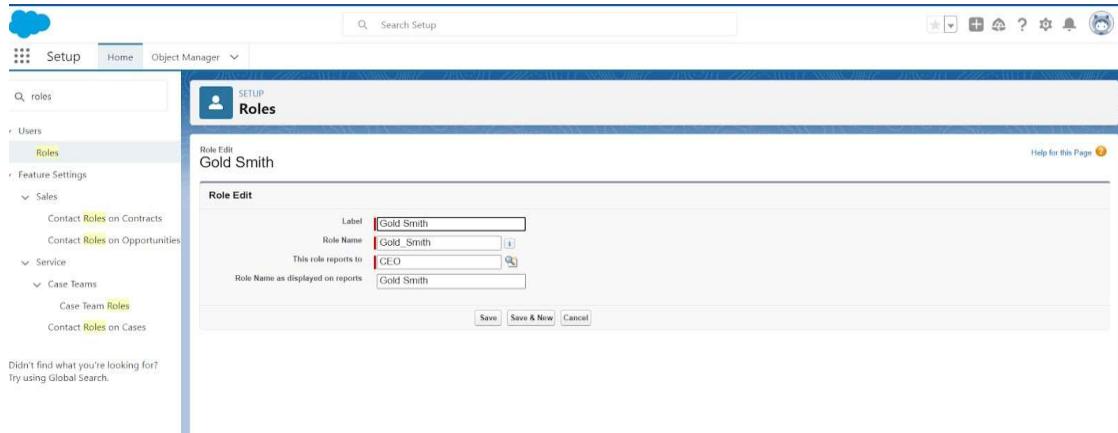
- From setup ,Go to quick find >> Search for Roles >> click on set up roles.



- Click on Expand All and click on add role under whom this role works.



- Give Label as "Gold Smith" and Role name gets auto populated. Check to whom this role (Gold Smith) reports. Then click on Save.



Activity 2: Create one more role as Worker which reports to Gold Smith.

Creating the Role Hierarchy

You can build on the existing role hierarchy shown on this page. To insert a new role, click **Add Role**.

Your Organization's Role Hierarchy

Meghana

- CEO** Edit | Del | Assign
- CFO** Edit | Del | Assign
- COO** Edit | Del | Assign
- Gold Smith** Edit | Del | Assign
- HR** Edit | Del | Assign
- Manager** Edit | Del | Assign
- SVP.Customer.Service & Support** Edit | Del | Assign
- SVP.Human.Resources** Edit | Del | Assign

Show in tree view

Milestone 8: Users

A user is anyone who logs in to Salesforce. Users are employees at your company, such as sales reps, managers, and IT specialists, who need access to the company's records. Every user in Salesforce has a user account. The user account identifies the user, and the user account settings determine what features and records the user can access.

Every user in Salesforce has a user account. The user account identifies the user, and the user account settings determine what features and records the user can access. Each user account contains at least the following:

- Username
- Email Address
- User's First Name (optional)
- User's Last Name
- Alias
- Nickname
- Licence
- Profile
- Role (optional)

Activity 1: Create User

1. Go to setup >> type users in quick find box >> select users >> click New user.
2. Fill in the fields
1. First Name : Niklaus
2. Last Name : Mikaelson
3. Alias : Give a Alias Name
4. Email id : Give your Personal Email id
5. Username : Username should be in this form: text@text.text
6. Nick Name : Give a Nickname
7. Role : Gold Smith
8. User licence : Salesforce
9. Profiles : Gold Smith

The screenshot shows the Salesforce Setup interface under the 'Users' section. On the left, there's a sidebar with various options like 'Permission Set Groups', 'Profiles', 'Public Groups', 'Queues', 'Roles', 'User Management Settings', and 'Users'. The 'Users' option is selected. The main area is titled 'User Edit' for 'Niklaus Mikaelson'. The 'General Information' section contains fields for First Name, Last Name, Alias, Email, Username, Nickname, Title, Company, Department, and Division. To the right, there's a 'Role' dropdown set to 'Gold Smith', a 'User License' dropdown set to 'Salesforce', and a 'Profile' dropdown also set to 'Gold Smith', all of which are highlighted with a red box. Below these are several checkboxes for different user types like Marketing User, Office User, etc., and some advanced settings at the bottom.

1. Save.

Activity 2: Create User

1. Go to setup >> type users in quick find box >> select users >> click New user.
2. Fill in the fields

- First Name : Kol
- Last Name : Mikaelson
- Alias : Give a Alias Name
- Email id : Give your Personal Email id
- Username : Username should be in this form: text@text.text
- Nick Name : Give a Nickname
- Role : Worker
- User licence : Salesforce Platform
- Profiles : Worker
- 3. Save.

Note: Create two more users as mentioned in activity 2 using the same profile.

Milestone 9: Page layouts

Page Layout in Salesforce allows us to customise the design and organise detail and edit pages of records in Salesforce. Page layouts can be used to control the appearance of fields, related lists, and custom links on standard and custom objects' detail and edit pages.

Use Case:

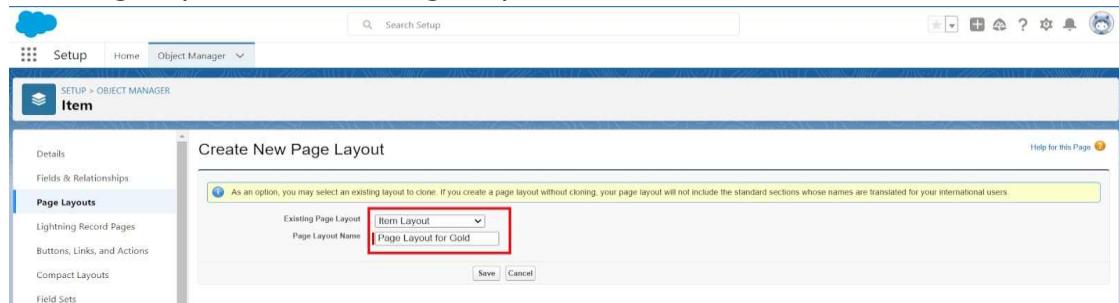
Hurray!! you have completed the data model structure for your organisation but while looking at the detailed and edit pages it seems to be so clumsy, so decide to organise the page in a pleasant way for the sake of good and pleasant appearance and assemble all different kinds of information in different sections in order.

Activity 1: To Create a Gold Page layout

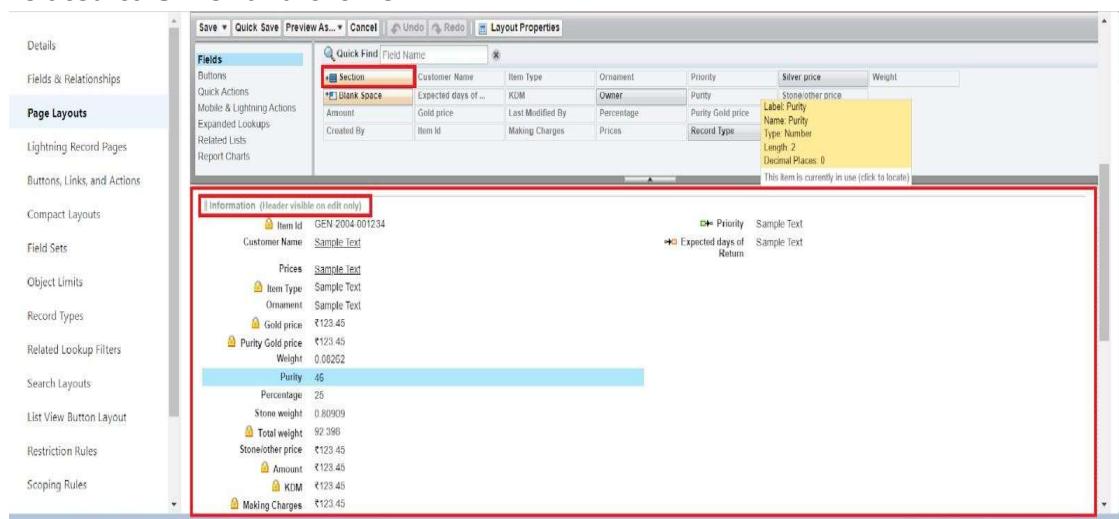
1. Go to Setup >> Click on Object Manager >> Search for the object (Item) >> From drop down click on Edit.
2. Click on Page layout >> Click on New.

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Item Layout	meghana katoju, 6/29/2023, 10:48 PM	meghana katoju, 7/18/2023, 11:45 AM

3. Give Page layout Name as “Page Layout for Gold” and click on Save and New.



4. Arrange the field as shown in the Information Section ,remove fields which are related to Silver and click Ok.

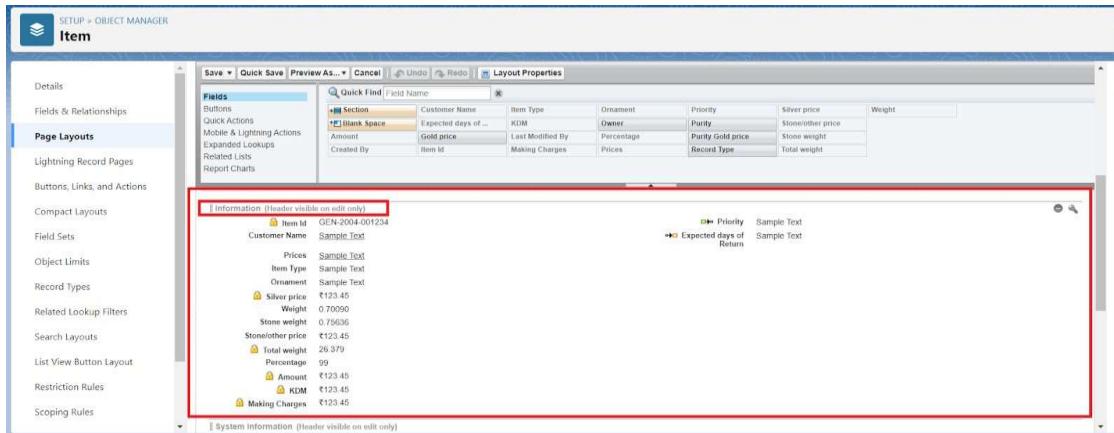


5. Click Save.
6. Make sure your page layout looks like the picture above.

Activity 2: To Create a Silver Page layout

1. Go to Setup >> Click on Object Manager >> Search for the object (Item) >> From drop down click on Edit.
2. Click on Page layout >> Click on New.
3. Give Page layout Name as “Page Layout for Silver” and click on Save.

4. Arrange the field as shown in the Information Section ,remove fields which are related to Gold and click Ok.



Milestone 10: Record Types

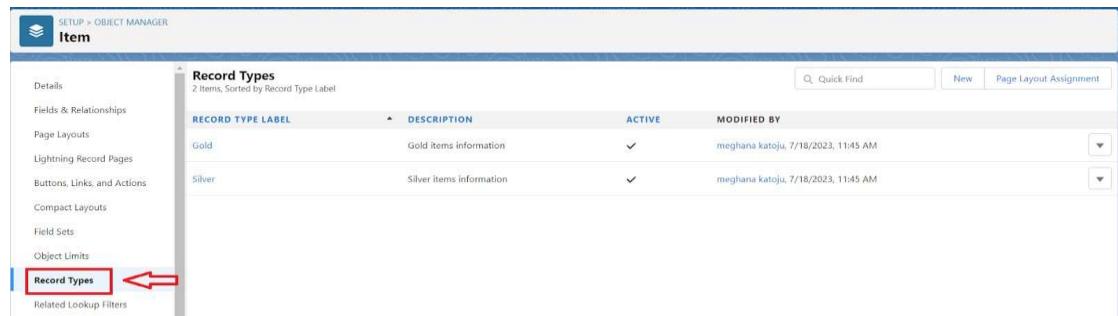
Record Types are a way of grouping many records of one type for that object. These can be applied to any standard or custom object, and allow you to have a different page layout, required fields, and picklist values. Record types allow administrators to create a different page layout with custom picklist fields and values for the same business process and various business processes.

Use Case:

All things done for the organisation. But some of the organisations feel it difficult to fill up all the details while creating a record, so GoldSmith assigned you a task to create different forms for Gold and Silver records based on their mode of work. As an Admin, you know how to achieve this.

Activity 1: To create a Record Type

1. Go to setup >> click on Object Manager >> type object name(Item) in quick find bar? click on the object.
2. Click on the Record Types >> click New.



3. Select Existing Record as “Master”, Record type Label as “Gold”, Description as “Gold items information”.

Setup > OBJECT MANAGER Item

Edit Record Type
Gold

Enter a new name for the selected record type and click Save.

Record Type
Record Type Label <input type="text" value="Gold"/>
Record Type Name <input type="text" value="Gold"/>
Namespace Prefix <input type="text" value="Gold"/>
Description <input type="text" value="Gold items information"/>
Active <input checked="" type="checkbox"/>

Save Cancel

4. Uncheck for “Make Available”.

Profile Name	Record Types Currently Available	<input type="checkbox"/> Make Available	<input type="checkbox"/> Make Default
Analytics Cloud Integration User		<input type="checkbox"/>	<input type="checkbox"/>
Analytics Cloud Security User		<input type="checkbox"/>	<input type="checkbox"/>
Chatter External User		<input type="checkbox"/>	<input type="checkbox"/>
Chatter Free User		<input type="checkbox"/>	<input type="checkbox"/>

5. Scroll down and check for the Gold Smith, Worker JW & System Administrator profile and click on Next.

Details	Customer Portal Manager Standard	<input type="checkbox"/>	<input type="checkbox"/>
Fields & Relationships	External Apps Login User	<input type="checkbox"/>	<input type="checkbox"/>
Page Layouts	External Identity User	<input type="checkbox"/>	<input type="checkbox"/>
Lightning Record Pages	Force.com - App Subscription User	<input type="checkbox"/>	<input type="checkbox"/>
Buttons, Links, and Actions	Force.com - Free User	<input type="checkbox"/>	<input type="checkbox"/>
Compact Layouts	Gold Partner User	<input type="checkbox"/>	<input type="checkbox"/>
Field Sets	Gold smith	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Object Limits	High Volume Customer Portal	<input type="checkbox"/>	<input type="checkbox"/>
Record Types	High Volume Customer Portal User	<input type="checkbox"/>	<input type="checkbox"/>
Related Lookup Filters	HR	<input type="checkbox"/>	<input type="checkbox"/>
Search Layouts	HR Recruiter	<input type="checkbox"/>	<input type="checkbox"/>
List View Button Layout	Identity User	<input type="checkbox"/>	<input type="checkbox"/>
Restriction Rules	J WORKER1	<input type="checkbox"/>	<input type="checkbox"/>
Scoping Rules	J WORKER2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	J WORKER3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Manager	<input type="checkbox"/>	<input type="checkbox"/>
	Marketing User	<input type="checkbox"/>	<input type="checkbox"/>
	Minimum Access - Salesforce	<input type="checkbox"/>	<input type="checkbox"/>
	Partner App Subscription User	<input type="checkbox"/>	<input type="checkbox"/>

6. Select "Apply a different layout for each profile", and change page layout to "Page Layout for Gold" for Gold Smith, Worker and System Administrator ? save & new.

Force.com - Free User	Item Layout ▾
Gold Partner User	Item Layout ▾
Gold smith	Page layout for Gold ▾
High Volume Customer Portal	Item Layout ▾
High Volume Customer Portal User	Item Layout ▾
HR	Item Layout ▾
HR Recruiter	Item Layout ▾
Identity User	Item Layout ▾
Manager	Item Layout ▾
Marketing User	Item Layout ▾
Minimum Access - Salesforce	Item Layout ▾
Partner App Subscription User	Item Layout ▾
Partner Community Login User	Item Layout ▾
Partner Community User	Item Layout ▾
Read Only	Item Layout ▾
s1	Item Layout ▾
Salesforce API Only System Integrations	Item Layout ▾
Sales User	Item Layout ▾
Sales User.	Item Layout ▾
Silver Partner User	Item Layout ▾
Solution Manager	Item Layout ▾
Standard Platform User	Item Layout ▾
Standard User	Item Layout ▾

HR	Item Layout ▾
HR Recruiter	Item Layout ▾
Identity User	Item Layout ▾
Manager	Item Layout ▾
Marketing User	Item Layout ▾
Minimum Access - Salesforce	Item Layout ▾
Partner App Subscription User	Item Layout ▾
Partner Community Login User	Item Layout ▾
Partner Community User	Item Layout ▾
Read Only	Item Layout ▾
s1	Item Layout ▾
Salesforce API Only System Integrations	Item Layout ▾
Sales User	Item Layout ▾
Sales User.	Item Layout ▾
Silver Partner User	Item Layout ▾
Solution Manager	Item Layout ▾
Standard Platform User	Item Layout ▾
Standard User	Item Layout ▾
Support User	Item Layout ▾
Support User.	Item Layout ▾
System Administrator	Item Layout ▾
Work.com Only User	Item Layout ▾
Worker	Page layout for Gold ▾

Activity 2: Create another Record Type with name "Silver" following the steps from Activity1.

Note: Use page layout for Silver.

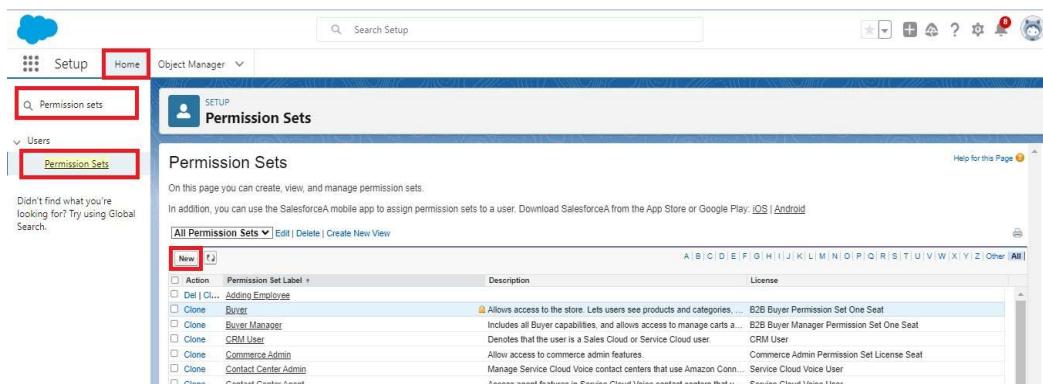
Milestone 11: Permission sets

A standard permission set consists of a group of common permissions for a particular feature associated with a permission set licence. Using a standard permission set saves you time and facilitates administration because you don't need to create the custom permission set.

Activity 1: Creating permission set

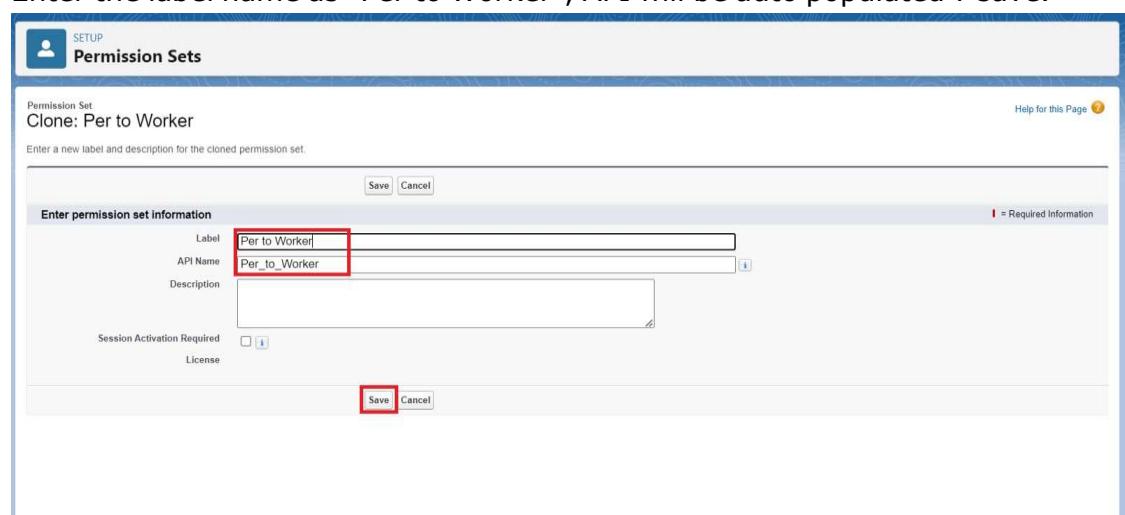
A permission set is a collection of settings and permissions that give users access to various tools and functions. Permission sets extend users' functional access without changing their profiles. Users can have only one profile but, depending on the Salesforce edition, they can have multiple permission sets.

1. Go to setup >> type "permission sets" in quick search >> select permission sets >> New.



The screenshot shows the 'Permission Sets' page in the Salesforce setup. The 'New' button is highlighted with a red box. The page lists various permission sets like 'Buyer', 'Buyer Manager', 'CRM User', etc., each with a description and license information.

2. Enter the label name as "Per to Worker", API will be auto populated ? save.



The screenshot shows the 'Enter permission set information' dialog. The 'Label' field contains 'Per to Worker' and the 'API Name' field contains 'Per_to_Worker', both of which are highlighted with red boxes. The 'Save' button is also highlighted with a red box.

3. Under Apps Select object settings.

Apps

Assigned Apps Settings that specify which apps are visible in the app menu
Assigned Connected Apps Settings that specify which connected apps are visible in the app menu
Object Settings Permissions to access objects and fields, and settings such as tab availability
App Permissions Permissions to perform app-specific actions, such as "Manage Call Centers"
Apex Class Access Permissions to execute Apex classes
Visualforce Page Access Permissions to execute Visualforce pages
External Data Source Access Permissions to authenticate against external data sources
Flow Access Permissions to execute Flows
Named Credential Access Permissions to authenticate against named credentials
Custom Permissions Permissions to access custom processes and apps
Custom Metadata Types Permissions to access custom metadata types
Custom Setting Definitions Permissions to access custom settings

Settings that apply to Salesforce apps, such as Sales, and custom apps built on the Lightning Platform
[Learn More](#)

- Click on Items object ? click on Edit ? under Item:Record Type Assignments,enable Gold,Silver ? Object permission check for read ,edit and create.

SETUP **Permission Sets**

Permission Set Overview > Object Settings ▾ Items ▾

Items **Save** **Cancel**

Tab Settings

Available	Visible
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Item: Record Type Assignments

Record Types	Assigned Record Types
Gold	<input checked="" type="checkbox"/>
Silver	<input checked="" type="checkbox"/>

Object Permissions

Permission Name	Enabled
Read	<input checked="" type="checkbox"/>
Create	<input checked="" type="checkbox"/>
Edit	<input checked="" type="checkbox"/>
Delete	<input type="checkbox"/>
View All	<input type="checkbox"/>
Modify All	<input type="checkbox"/>

Field Permissions

- Click on Save.
- After saving the permission click on the Manage assignment
- Now click on the Add Assignment.

Current Assignments

Add Assignment

Select Users to Assign

All Users ▾

Full Name	Alias	Username	Role	Active	Profile
Chatter Expert	Chatter	chatty.00d5i000003ksyzea4.t4i5wtjeybt4@chatter.salesforce.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Chatter Free User
Integration User	integ	integration@00d5i000003ksyzea4.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Analytics Cloud Integration User
Mani deepak	mdeep	manideepak143@gmail.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Worker
Megha Katoju Site Guest User	guest	megha_katoju@00d5i000003ksyzea4.org.force.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Megha Katoju Profile
Meghana Katoj Site Guest User	guest	meghana_katoj@00d5i000003ksyzea4.org.force.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Meghana Katoj Profile

Cancel Next

- Now select the users which you have created in user milestone, using Worker profile and click on Next ? Assign? Done.

Select an Expiration Option For Assigned Users

No expiration date

Specify the expiration date

1 Day	1 Week	30 Days	60 Days	Custom Date
-------	--------	---------	---------	-------------

Time Zone

Selected Users

Full Name	Role	Profile	Active	User License	Expires On
Mani deepak	Worker	Worker	<input checked="" type="checkbox"/>	Salesforce Platform	Never Expires

Cancel Back Assign

- 9.

Milestone 12: Trigger

Use Case:

Trigger and Trigger handler is designed to handle scenarios where we used to update the "Paid Amount" field on a custom object called "Billing" based on the value in a field named "Paying Amount" during both record insertion and update operations. It Calculates and updates the "Paid Amount" field based on the existing "Paid Amount" and the new "Paying Amount" during record

updates. This approach ensures that the "Paid Amount" accurately reflects the payments made by customers and provides a history of changes to the "Paid Amount" over time.

Trigger :

A trigger is a piece of Apex code that automatically runs before or after specific events, like record insertion, update, or deletion. Triggers are used to customise and automate actions in response to these events.

Activity 1: Create a Trigger Handler class

Trigger handler:

A trigger handler is a design pattern that organises trigger logic into separate classes. This helps in keeping code organised, reusable, and easier to maintain. The trigger handler class contains methods that handle the specific logic for different trigger events, improving code structure and readability. This approach is particularly useful for complex triggers or projects with multiple triggers, as it promotes modular coding practices and reduces the chances of code duplication.

CODE:

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

Activity 2: Create the trigger

CODE:

```
trigger UpdatePaidAmountTrigger on Billing__c (before insert, before update) {  
    if (Trigger.isInsert) {  
        UpdatePaidAmountTriggerHandler.handleBeforeInsert(Trigger.new);  
    } else if (Trigger.isUpdate) {  
        UpdatePaidAmountTriggerHandler.handleBeforeUpdate(Trigger.oldMap, Trigger.new);  
    }  
}
```

}

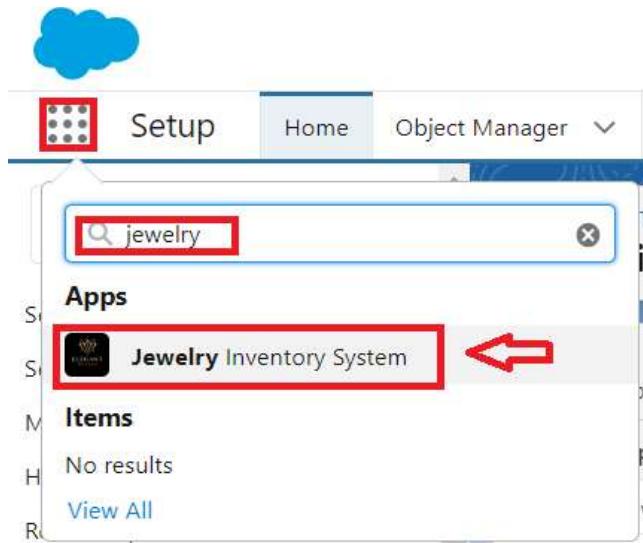
Milestone 13: User Adoption

Use Case:

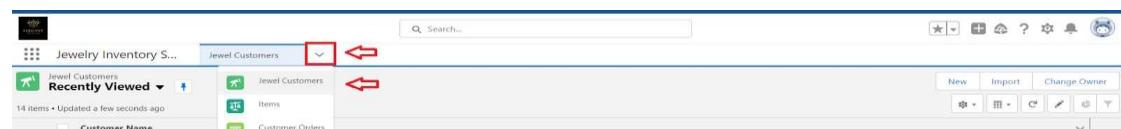
As a new Administrator, you perform user management tasks like creating and editing users, resetting passwords, granting permissions, configuring data access, and much more. In this unit, you will learn about users and how you add users to your Salesforce org.

Activity 1: Create a Record (Jewel Customer)

1. Click on App Launcher on the left side of the screen.
2. Search Jewelry Inventory System & click on it.



3. Click on Drop Down and Click on the Jewel Customer tab.
4. Click New.



5. Fill the Details and click on Save.

Activity 2: View a Record(Jewel Customer)

1. Click on App Launcher on the left side of the screen.
2. Search Jewelry Inventory System & click on it.
3. Click on the Jewel Customer Tab.

4. Click on any record name. you can see the details of the Jewel Customer.

Activity 3: Delete a Record(Jewel Customer)

1. Click on App Launcher on the left side of the screen.
2. Search Jewelry Inventory System & click on it.
3. Click on the Jewel Customer Tab.
4. Click on Arrow at right hand side on that Particular record.
5. Click delete.

Note:Create at least 10 records for each of the objects: Jewel Customer,Price,Item,Customer Order and Billing.

Milestone 14: Reports

Reports give you access to your Salesforce data. You can examine your Salesforce data in almost infinite combinations, display it in easy-to-understand formats, and share the resulting insights with others. Before building, reading, and sharing reports, review these reporting basics.

Types of Reports in Salesforce

1. Tabular
2. Summary
3. Matrix
4. Joined Reports

Use Case:

The GoldSmith of an organisation wants to have a brief data on Gold Items,Silver Items,Customer Orders and Billings. So he can have a clear picture of his organisation and be able to make any decisions required based on this data. So he calls you on this task and wants you to represent the data in an appropriate way.

Let's create a Report.

Activity 1: Create Report

1. Go to the app >> click on the reports tab
2. Click New Report.

Jewelry Inventory S... Reports

Recent 12 items

REPORTS Report Name

RECENT New Report billing w...
Created by Me New Items with Bill...
Private Reports New Prices Report
Public Reports Days on Market
All Reports New Billings with It...
FOLDERS All Folders New Opportunities v...
Created by Me New Accounts Repo...
Shared with Me New orders Report
FAVORITES All Favorites New Billings with Price Report
Copy of New Report
New Employees Report

Folder Created By Created On Subscribed

Private Reports meghana katoju 7/19/2023, 4:34 AM
Private Reports meghana katoju 7/19/2023, 4:30 AM
Private Reports meghana katoju 7/19/2023, 4:27 AM
DreamHouse Reports meghana katoju 5/31/2022, 11:25 PM
Private Reports meghana katoju 7/12/2023, 8:45 PM
Private Reports meghana katoju 7/10/2023, 8:48 PM
Private Reports meghana katoju 7/12/2023, 12:03 AM
Private Reports meghana katoju 7/12/2023, 12:01 AM
Private Reports meghana katoju 7/11/2023, 11:49 PM
Private Reports meghana katoju 6/20/2023, 11:19 PM
Private Reports meghana katoju 6/20/2023, 11:08 PM

3. Select report type from category or from report type panel or from search panel ? click on start report.

Jewelry Inventory S... Prices Report Builder

Create Report

Category

Recently Used
All
Accounts & Contacts
Opportunities
Customer Support Reports

Select a Report Type

Q PRICE

Report Type Name Category

Prices Books with Products Standard

Items with Prices Standard

Prices Standard

4. Customise your report

Jewelry Inventory S... Prices Report Builder

REPORT ▾ New Prices Report ▾ Prices

Fields

Groups

Columns

Add column...

Price: Price

Gold price

Silver price

1 p-022
2 p-021
3 p-027
4 p-028
5 p-030
6 p-026
7 p-025
8 p-028
9 p-024
10 p-023

To see the latest edits, refresh the preview. Refresh

Update Preview Automatically

Run

- Add fields from the left pane as shown below.
5. Save or run it.

The screenshot shows the Report Builder interface with the following details:

- Report Title:** Jewelry Inventory S...
- Report Type:** New Prices Report
- Tab:** Prices
- Preview Message:** Previewing a limited number of records. Run the report to see everything.
- Fields Section:**
 - Groups:** GROUP ROWS (Add group...)
 - Columns:** Price: Price, # Gold price, # Silver price
- Table Data:**

	Price: Price	Gold price	Silver price
1	p-022	₹60,000,0000	₹71,000,0000
2	p-021	₹63,000,0000	₹72,000,0000
3	p-027	₹62,350,0000	₹70,200,0000
4	p-029	₹58,700,0000	₹69,000,0000
5	p-030	₹66,000,0000	₹78,000,0000
6	p-028	₹62,000,0000	₹70,000,0000
7	p-025	₹58,000,0000	₹69,000,0000
8	p-028	₹59,900,0000	₹73,000,0000
9	p-024	₹62,000,0000	₹73,000,0000
10	p-023	₹58,000,0000	₹69,000,0000
11		₹609,950,0000	₹714,200,0000

Note: Reports may get varied from the above pictures as the data might be different.

Activity 2: Reports

1. Create a report with report type: “Item with Billings”.
2. Create a report with report type: “Billings with item and Customer order”.

Milestone 15: Dashboards

Dashboards help you visually understand changing business conditions so you can make decisions based on the real-time data you've gathered with reports. Use dashboards to help users identify trends, sort out quantities, and measure the impact of their activities. Before building, reading, and sharing dashboards, review these dashboard basics.

Use Case:

As an Admin for the organisation you keep pushing yourself to reach out the business requirements to take the organisation to peak heights and all your superiors are very much impressed with your efforts and work dedication. In addition with reports you make an ease for the GoldSmith in viewing the reports with data visualisation. So he doesn't have to search for the data he wants to check.

Activity 1: Dashboards

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Milestone 16: Flows

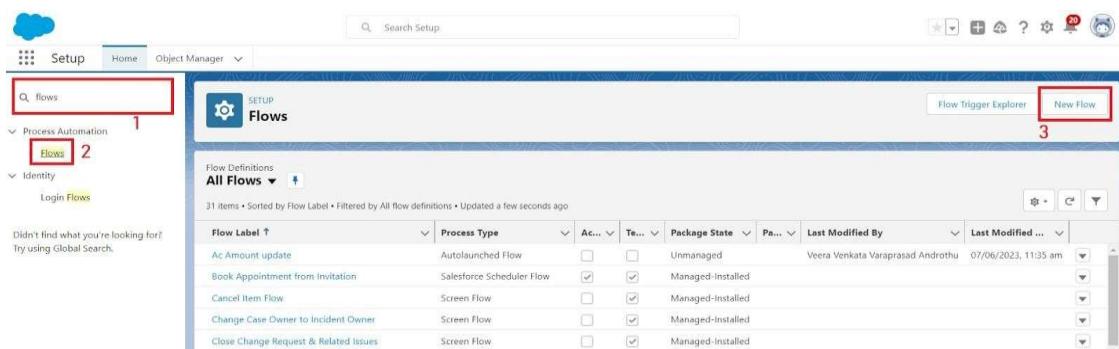
In Salesforce, a flow is a powerful tool that allows you to automate business processes, collect and update data, and guide users through a series of screens or steps. Flows are built using a visual interface and can be created without any coding knowledge.

Use Case:

Flows, also known as Salesforce Flows or Visual Flows, are powerful declarative automation tools in Salesforce that allow users to create and manage complex business processes without the need for code. Flows are designed using a drag-and-drop interface, making them easy to use for both administrators and developers. They can be used for various automation tasks like email triggers including data entry, record updates, and guided user interactions.

Activity 1: Create a Flow

1. Go to setup >> type Flow in quick find box >> Click on the Flow and Select the New Flow.



2. Select the Record-triggered flow and Click on Create.

New Flow

Core All + Templates

1

2

Screen Flow
Guides users through a business process that's launched from Lightning pages, Experience Cloud sites, quick actions, and more.

Record-Triggered Flow
Launches when a record is created, updated, or deleted. This autolaunched flow runs in the background.

Schedule-Triggered Flow
Launches at a specified time and frequency for each record in a batch. This autolaunched flow runs in the background.

Platform Event—Triggered Flow
Launches when a platform event message is received. This autolaunched flow runs in the background.

Autolaunched Flow (No Trigger)
Launches when invoked by Apex, processes, REST API, and more. This autolaunched flow runs in the background.

Record-Triggered Orchestration
Launches when a record is created or updated. An orchestration lets you create a multi-step, multi-user process.

Create

3. Select the Object as a “Billing” in the Drop down list.
4. Select the Trigger Flow when: “A record is Created or Updated”.
5. Select the Optimise the flow for: “Actions and Related Records” and Click on Done.

Configure Start

Select Object

Select the object whose records trigger the flow when they're created, updated, or deleted.

*Object
Item

Configure Trigger

*Trigger the Flow When:

- A record is created
- A record is updated
- A record is created or updated
- A record is deleted

Set Entry Conditions

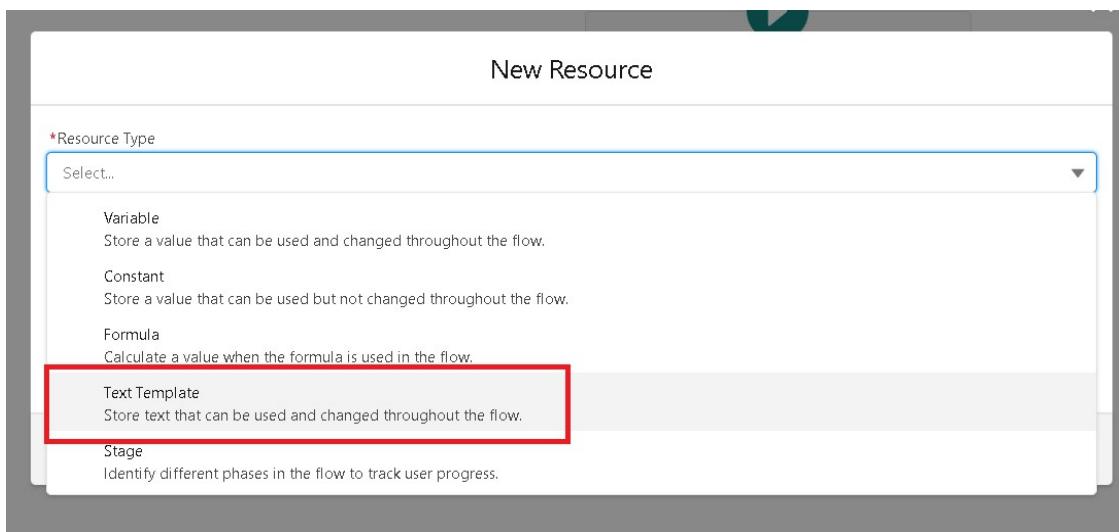
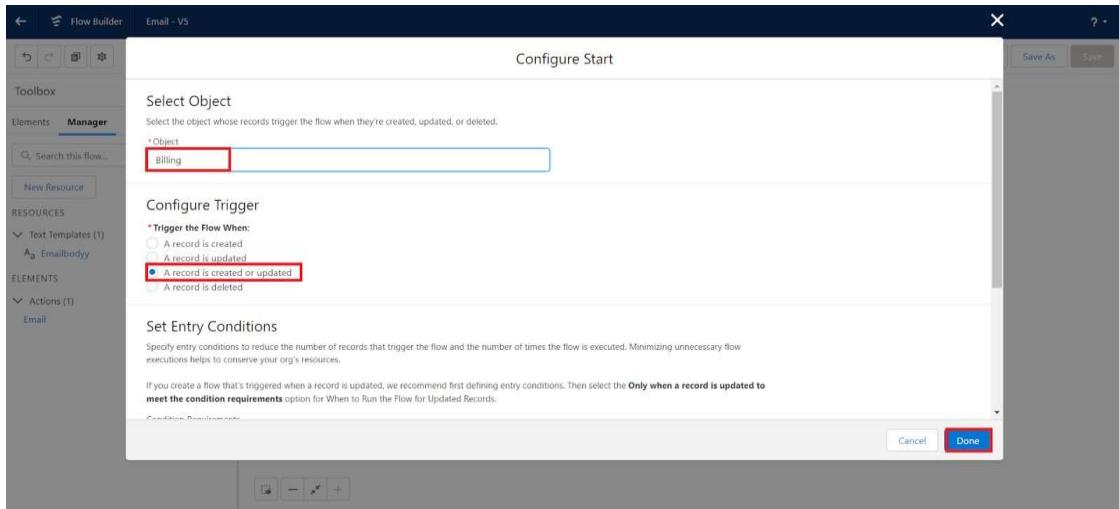
Specify entry conditions to reduce the number of records that trigger the flow and the number of times the flow is executed. Minimizing unnecessary flow executions helps to conserve your org's resources.

If you create a flow that's triggered when a record is updated, we recommend first defining entry conditions. Then select the **Only when a record is updated to meet the condition requirements** option for When to Run the Flow for Updated Records.

Condition Requirements

Cancel Done

6. Now change the mode form Auto-layout to free-form.
7. Now select the manger option in the toolbox, click New resource.
8. Select the resource type as text template.



9. Enter the API name as “ Email body”.

Edit Text Template

* API Name
EmailBody

Description

* Body

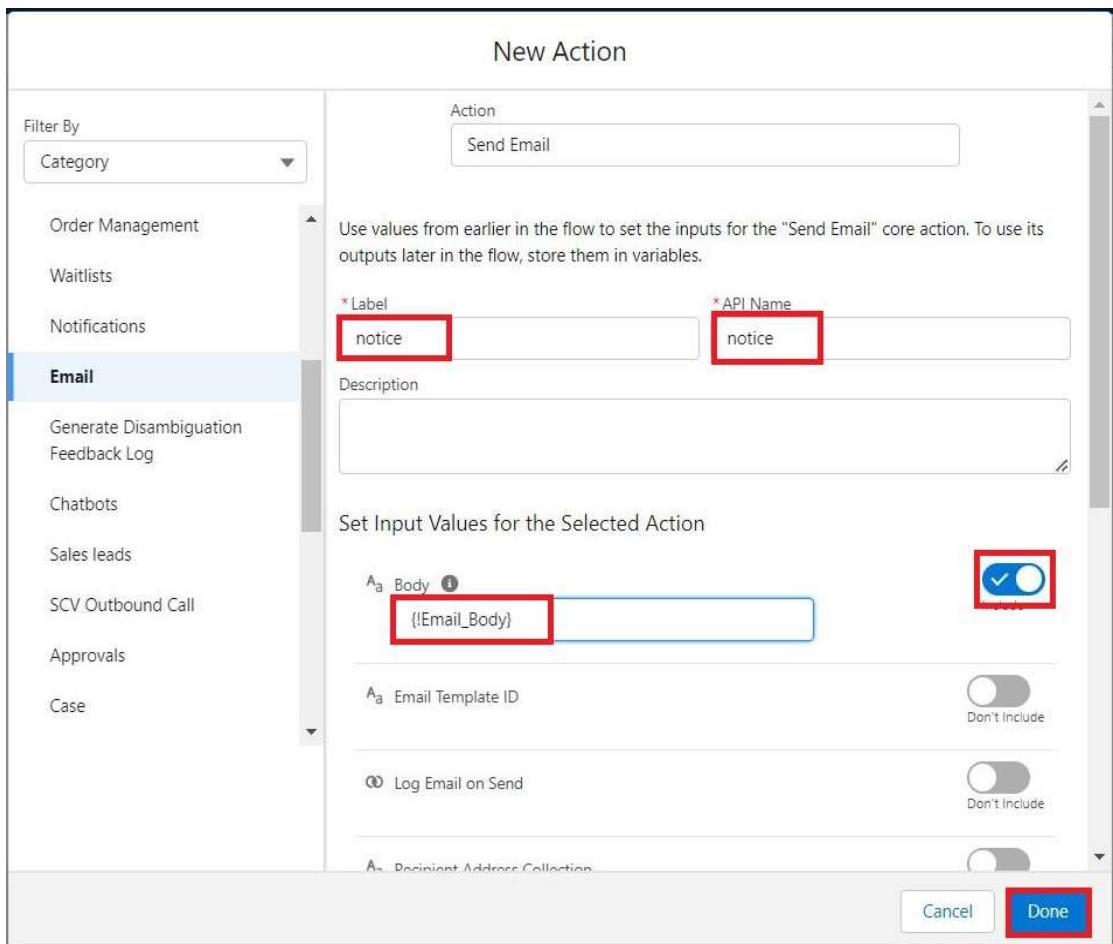
Insert a resource...

Hello
Customer Name: {!\$Record.Item__r.Customer_Name__r.Name}
Here are the details for the item you purchased with Jewellery Inventory System
Item Type: {!\$Record.Item__r.Item_Type__c}
Ornament: {!\$Record.Ornament__c}
Weight: {!\$Record.Weight__c}grams
Amount: {!\$Record.Amount__c}

10. Change the view as Rich Text ? View to Plain Text.
11. In the body field paste the syntax that is given below.

Hello
Customer Name: {!\$Record.Item__r.Customer_Name__r.Name}
Here are the details for the item you purchased with Jewellery Inventory System
Item Type: {!\$Record.Item__r.Item_Type__c}
Ornament: {!\$Record.Ornament__c}
Weight: {!\$Record.Weight__c}grams
Amount: {!\$Record.Amount__c}

12. Click done.
13. Now click on elements, and drag the action element into the preview pane.
14. Their action bar will be opened in that search for “ send email ” and click on it.
15. Give the label name as “ notice ”
16. API name will be auto populated.
17. Enable the body in set input values for the selected action.
18. Select the text template that was created.

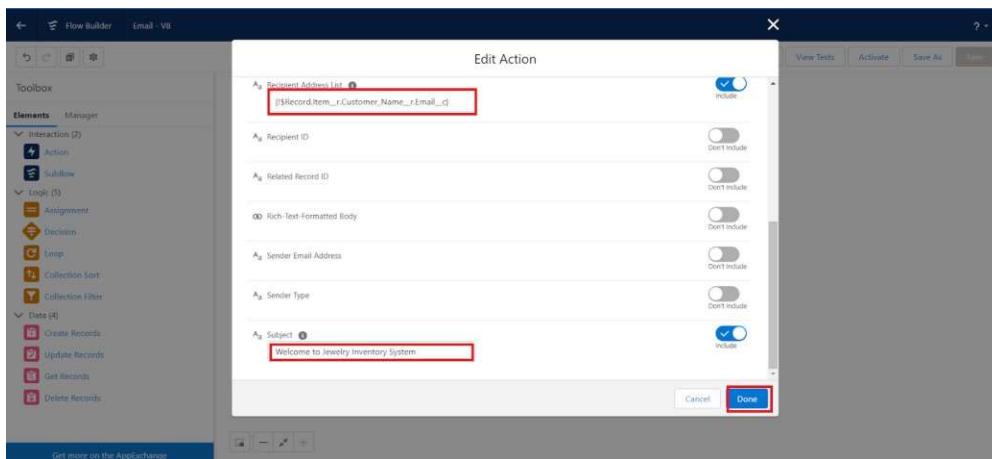


19. Include Recipient Address list, select the email form the record.

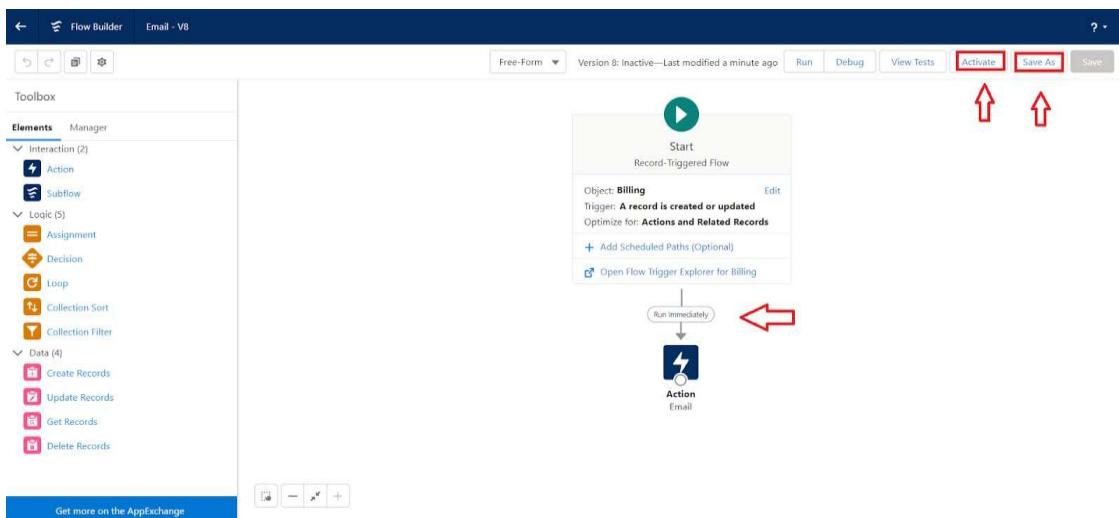
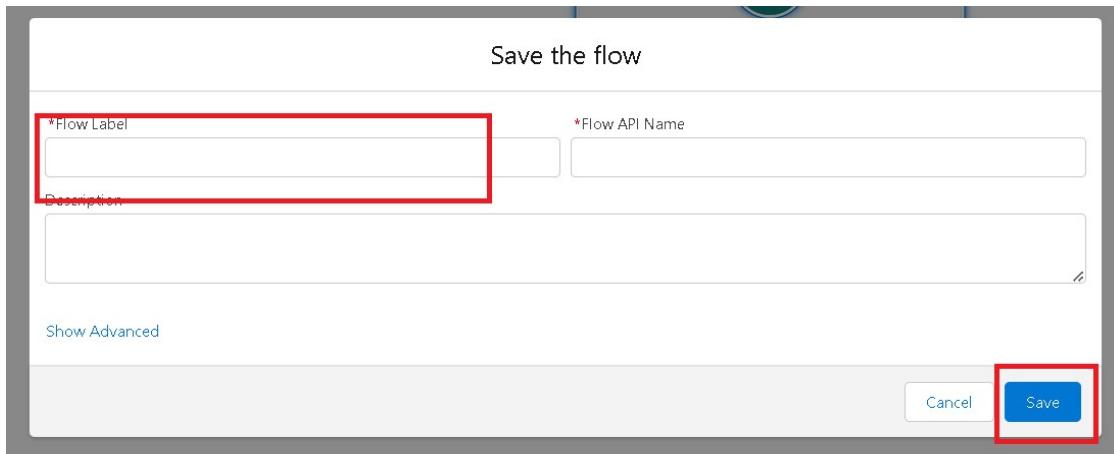
`({$Record.Item_r.Customer_Namer.Email_c})`

20. Include the subject as "Welcome to Jewelry Inventory System".

21. Click done.



22. Now drag the path from the start to the action element.
23. Click on save. Given the Flow label , Flow Api name will be auto populated.
24. And click save, and click on activate.



Milestone 13 : HOME PAGE :

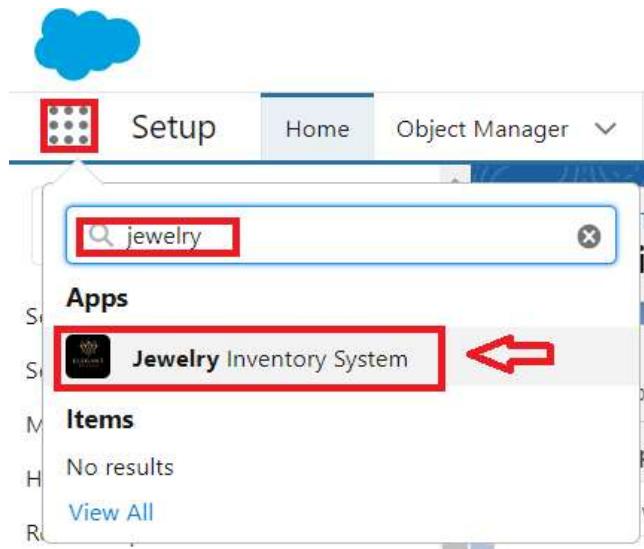
User Adoption

Use Case:

As a new Administrator, you perform user management tasks like creating and editing users, resetting passwords, granting permissions, configuring data access, and much more. In this unit, you will learn about users and how you add users to your Salesforce org.

Activity 1: Create a Record (Jewel Customer)

6. Click on App Launcher on the left side of the screen.
7. Search Jewelry Inventory System & click on it.



8. Click on Drop Down and Click on the Jewel Customer tab.
9. Click New.



10. Fill the Details and click on Save.

Activity 2: View a Record(Jewel Customer)

5. Click on App Launcher on the left side of the screen.
6. Search Jewelry Inventory System & click on it.
7. Click on the Jewel Customer Tab.
8. Click on any record name. you can see the details of the Jewel Customer.

Activity 3: Delete a Record(Jewel Customer)

6. Click on App Launcher on the left side of the screen.
7. Search Jewelry Inventory System & click on it.
8. Click on the Jewel Customer Tab.
9. Click on Arrow at right hand side on that Particular record.
10. Click delete.

Note: Create at least 10 records for each of the objects: Jewel Customer, Price, Item, Customer Order and Billing.

Conclusion :

The CRM Application for Jewel Management successfully demonstrates how technology can transform traditional jewelry business operations into a digital, efficient, and customer-focused system. The application streamlines customer management, inventory tracking, billing, and reporting, ensuring accuracy and reducing manual workload.

By integrating features like custom order management, loyalty programs, and personalized notifications, the system helps jewelers build stronger customer relationships and increase sales. The inclusion of role-based security, analytics, and multi-branch support makes it a reliable solution for both small jewelry shops and large chain stores.

For students, this project provided hands-on experience in system analysis, software development, and real-world problem solving, while also enhancing technical skills in database design, frontend/backend development, and CRM concepts.

In conclusion, the project not only meets its objectives but also proves that a domain-specific CRM solution can greatly improve business efficiency and customer satisfaction in the jewelry industry.

Project Achievements :

1. Successful CRM Prototype Development – Designed and developed a functional CRM application tailored for the jewelry domain.
2. Customer Data Management – Implemented a centralized system to store and manage customer profiles, purchase history, and loyalty points.
3. Automated Billing & Invoicing – Created a billing module that generates accurate invoices with tax and discount calculations.
4. Inventory Tracking – Built an inventory system to manage jewelry items by karat, weight, stone type, and stock availability.
5. Order & Repair Handling – Enabled smooth management of custom orders, repairs, returns, and exchanges.
6. Reporting & Analytics – Developed dashboards to provide sales insights, customer trends, and profit analysis.
7. Role-Based Security – Implemented secure login and access control for Admin, Salesperson, and Accountant roles.
8. Marketing Integration – Added notification features (SMS/Email) for offers, reminders, and customer engagement.
9. Real-World Relevance – Addressed actual challenges faced by jewelry businesses, bridging the gap between theory and industry application.
10. Team & Technical Growth – Enhanced collaboration skills and hands-on experience in full-stack development, database design, and software engineering practices.

Student Learning Outcomes :

1. Understanding of CRM Systems – Gained practical knowledge of how CRM applications function in managing customer data and business operations.
2. Domain Knowledge – Learned the specific requirements of the jewelry business such as karat, weight, stone certification, repairs, and loyalty programs.

3. Software Development Skills – Improved technical expertise in frontend, backend, database design, and API integration.
4. Database Management – Designed ER diagrams, relational schemas, and implemented CRUD operations effectively.
5. Problem-Solving Ability – Applied analytical skills to handle challenges like inventory tracking, billing automation, and secure user access.
6. Collaboration & Teamwork – Experienced working in a team environment, sharing modules, and using version control tools like GitHub.
7. Project Lifecycle Experience – Understood the stages of SDLC (Requirement analysis, Design, Development, Testing, Deployment).
8. Report & Analytics Handling – Learned how to generate sales reports, customer insights, and analyze data for decision-making.
9. Real-World Application – Connected academic learning with real-world business needs, preparing for industry-ready solutions.
10. Professional Skills – Enhanced documentation, presentation, and project demonstration skills for academic and professional purposes.

Future Scope :

1. Mobile Application – Extend the CRM to Android/iOS platforms for jewelers and customers to access on the go.
2. Online Shopping Integration – Connect the CRM with an e-commerce website for online jewelry sales and catalog browsing.
3. AI-Powered Recommendations – Use AI/ML to suggest jewelry designs based on customer purchase history and preferences.
4. Barcode / RFID Support – Implement barcode or RFID scanning for quick stock updates and theft prevention.
5. Payment Gateway Integration – Enable secure online payments through UPI, credit/debit cards, and wallets.
6. Blockchain for Certification – Use blockchain to store and verify gemstone/jewelry authenticity certificates.
7. Cloud Deployment – Host the CRM on cloud platforms (AWS, Azure, Google Cloud) for scalability and multi-branch usage.
8. Advanced Analytics – Introduce predictive sales forecasting and customer churn analysis.
9. Chatbot Support – Add AI-driven chatbots for customer queries, order tracking, and personalized offers.
10. Multi-Language Support – Provide regional language support for better usability across different locations.