



PROJECT TITLE:
A CRM APPLICATION TO ENGINEERING WORKS

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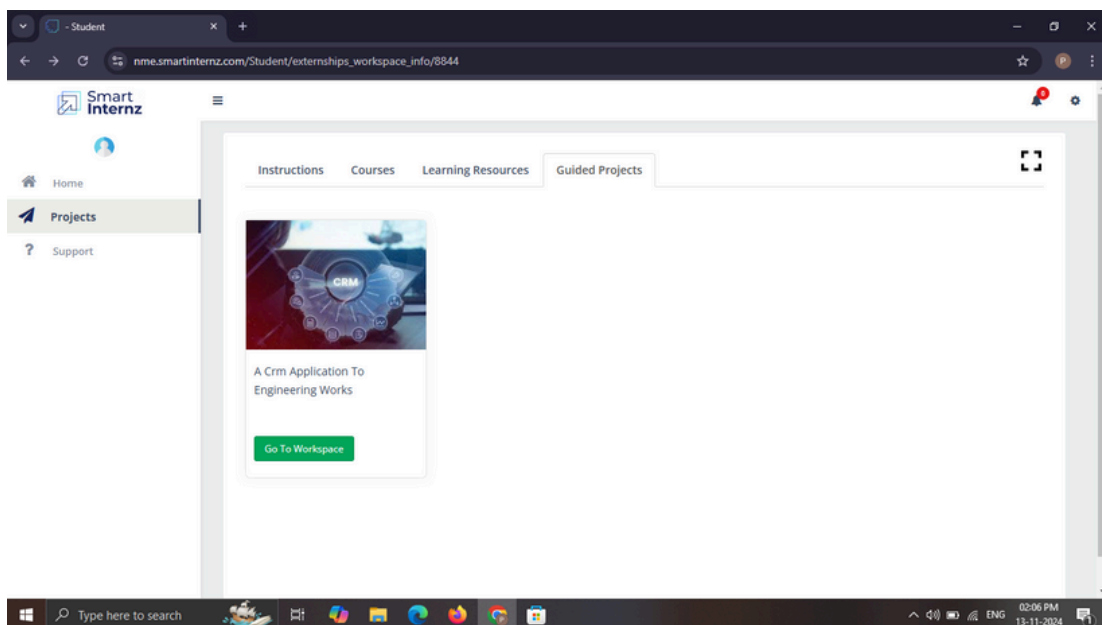
GitHub Link: https://github.com/Pavithra-824/Salesforce_NM.git

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A CRM APPLICATIONS TO ENGINEERING WORKS

1. Project Overview:

The "CRM Application for Engineering Works" project aims to enhance customer relationship management by leveraging Salesforce's powerful cloud-based platform. This application was developed to streamline customer interactions, project tracking, and resource management within engineering firms. Designed with a user-friendly interface, the CRM enables efficient data handling and workflow automation, which is essential for managing client information, tracking project progress, and optimizing service delivery.



2. Objectives

Business Goals:

Increase Operational Efficiency: Minimize redundancies, save time, and improve team collaboration by integrating the CRM with other business systems.

Enhance Customer Satisfaction: Provide timely, personalized communication and support to enhance client experience and build stronger relationships.

Specific Outcome:

Improve Project Tracking: Enable real-time project tracking to monitor progress, allocate resources effectively, and meet project deadlines.

Enable Data-Driven Decisions: Utilize analytics to gain insights into client behavior, project performance, and sales trends to make informed business decisions.

3. Salesforce Key Features And Concept Utilized:

Salesforce CRM: Central to this project, Salesforce's CRM functionality enables tracking of customer data, interactions, and leads, helping the engineering firm manage relationships and improve client service.

Lightning Components: Salesforce Lightning Components were used to create dynamic and responsive interfaces, improving the user experience with a modern, faster, and interactive design.

Process Builder and Workflow Rules: These tools automate repetitive tasks, like updating records, sending email notifications, and tracking project milestones, making day-to-day operations smoother.

Custom Objects and Fields: Custom objects and fields were created to store specific data related to engineering projects, such as project specifications, milestones, and resource details.

Chatter: Salesforce's collaboration tool, Chatter, was implemented to enable team communication, allowing members to share project updates, discuss client needs, and keep all stakeholders aligned.

Data Security and Permissions: Salesforce's robust security model, including role hierarchies, sharing rules, and permission sets, ensures sensitive project and client data is accessible only to authorized personnel.

Detailed Steps To Solution Design:

Activity 1 : Create Object

Enter the label name >> Fabrication

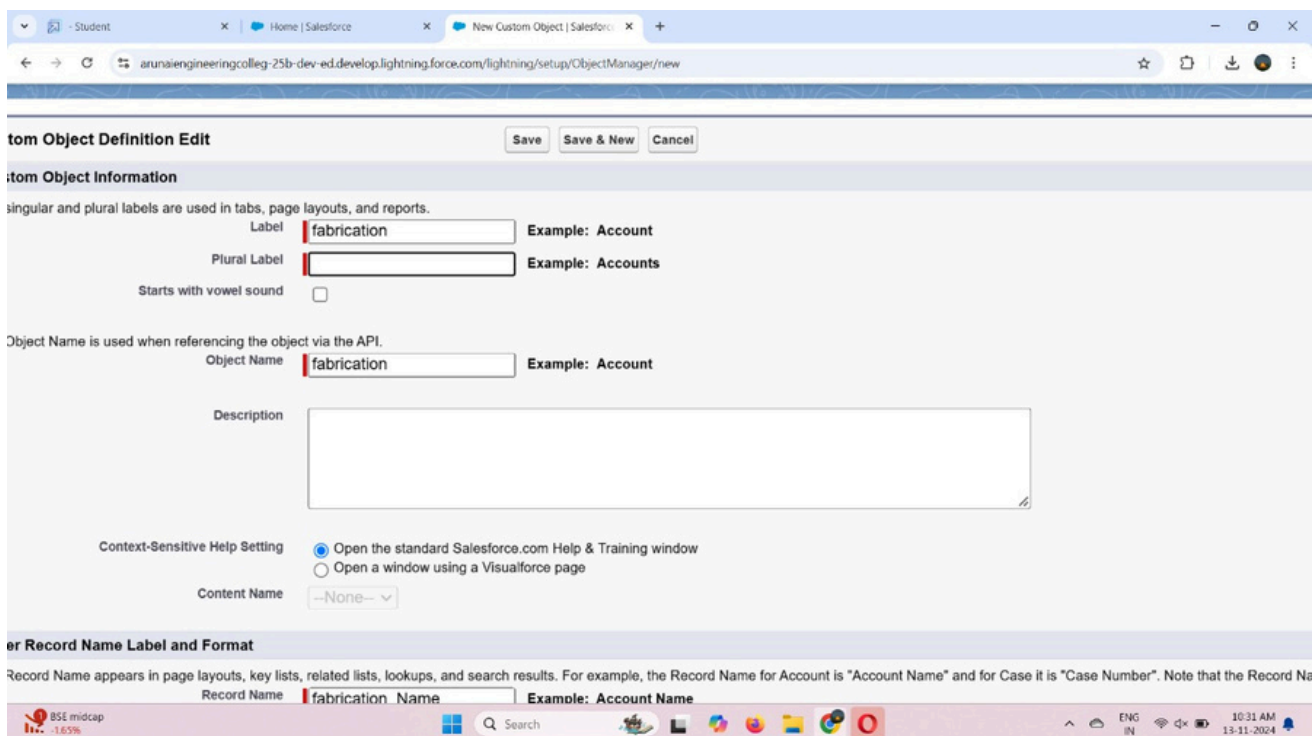
Plural label name >> Fabrications

Enter Record Name Label and Format

Record Name >> Fabrication Name

Data Type >> Text

Click Save.



New Custom Object Definition Edit [Save] [Save & New] [Cancel]

Custom Object Information

Singular and plural labels are used in tabs, page layouts, and reports.

Label Example: Account

Plural Label Example: Accounts

Starts with vowel sound ☐

Object Name is used when referencing the object via the API.

Object Name Example: Account

Description

Context-Sensitive Help Setting

☒ Open the standard Salesforce.com Help & Training window

☐ Open a window using a Visualforce page

Content Name

Record Name Label and Format

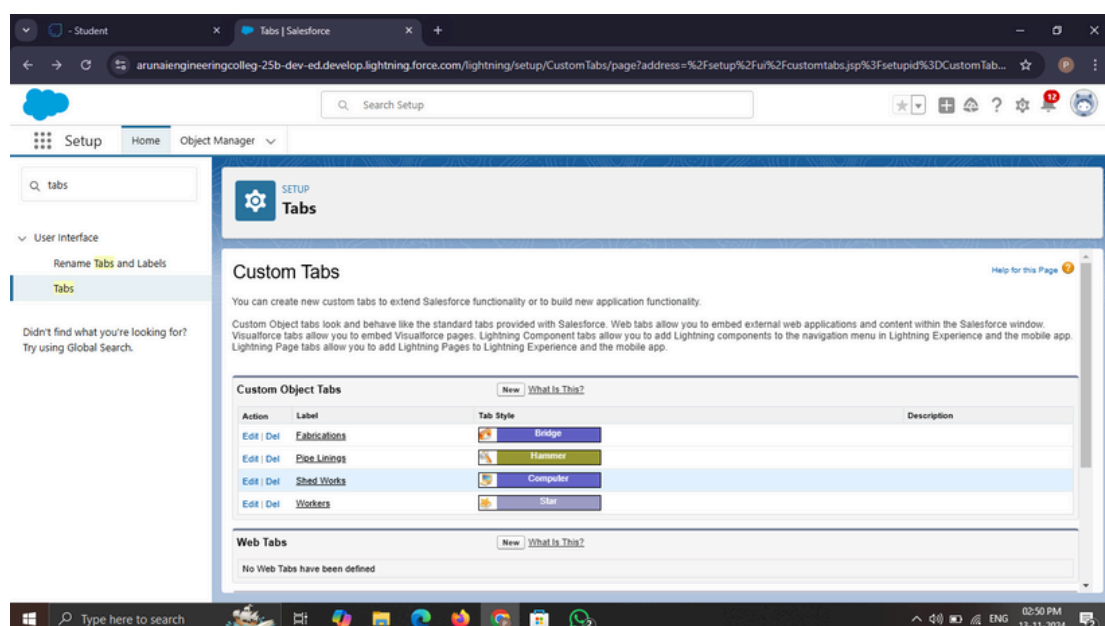
Record Name appears in page layouts, key lists, related lists, lookups, and search results. For example, the Record Name for Account is "Account Name" and for Case it is "Case Number". Note that the Record Name is used in the URL.

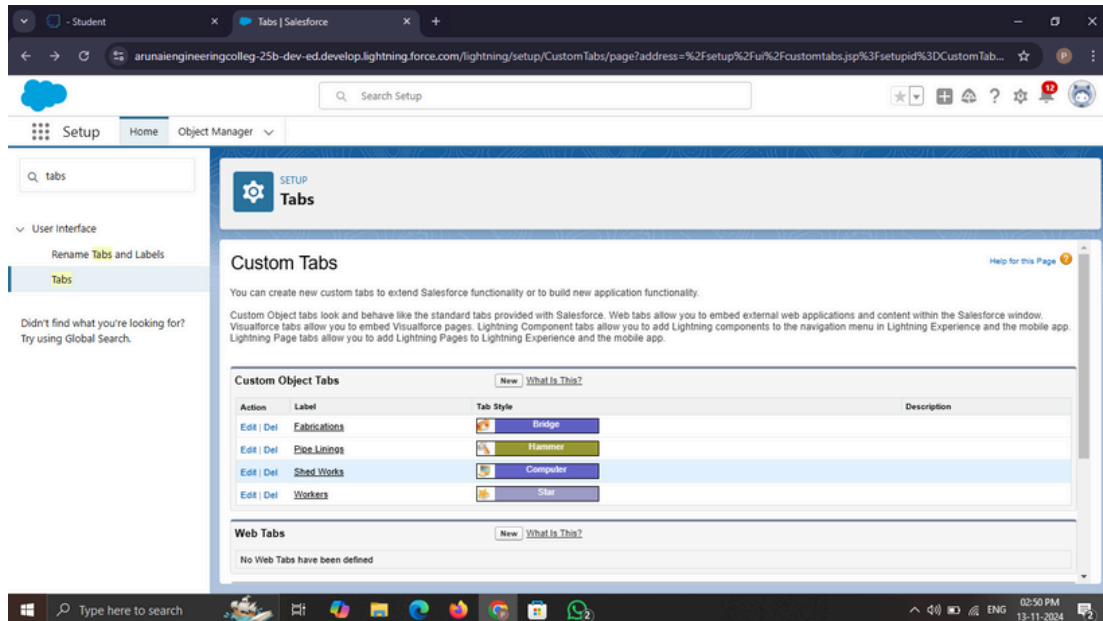
Record Name Example: Account Name

Activity 2: Creating Tabs

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

1. Click on the "Tabs" Button: In the Fabrication object's details page, click on the "Tabs" button.
2. Click on the "New" Button: Click on the "New" button to create a new tab for the Fabrication object.
3. Enter Tab Details: Enter the tab label, name, and description for the Fabrication tab (e.g., "Fabrication Details", "Fabrication_Info", "Displays fabrication details").
4. Choose a Tab Style: Select a tab style (e.g., "Standard", "Custom", or "Visualforce") for the Fabrication tab.
5. Save the Tab: Click "Save" to create the Fabrication tab.





Activity 3: The Lightning App

Go to setup page >> search "app manager" in quick find >> select "app manager" >> click on New lightning App.

- Fill the app name in app details and branding as follow
- App Name : Engineering Works
- Developer Name : This will auto populated
- Image : optional (if you want to give any image you can otherwise not mandatory) Primary color hex value : keep this default.

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

To Add Navigation Items:

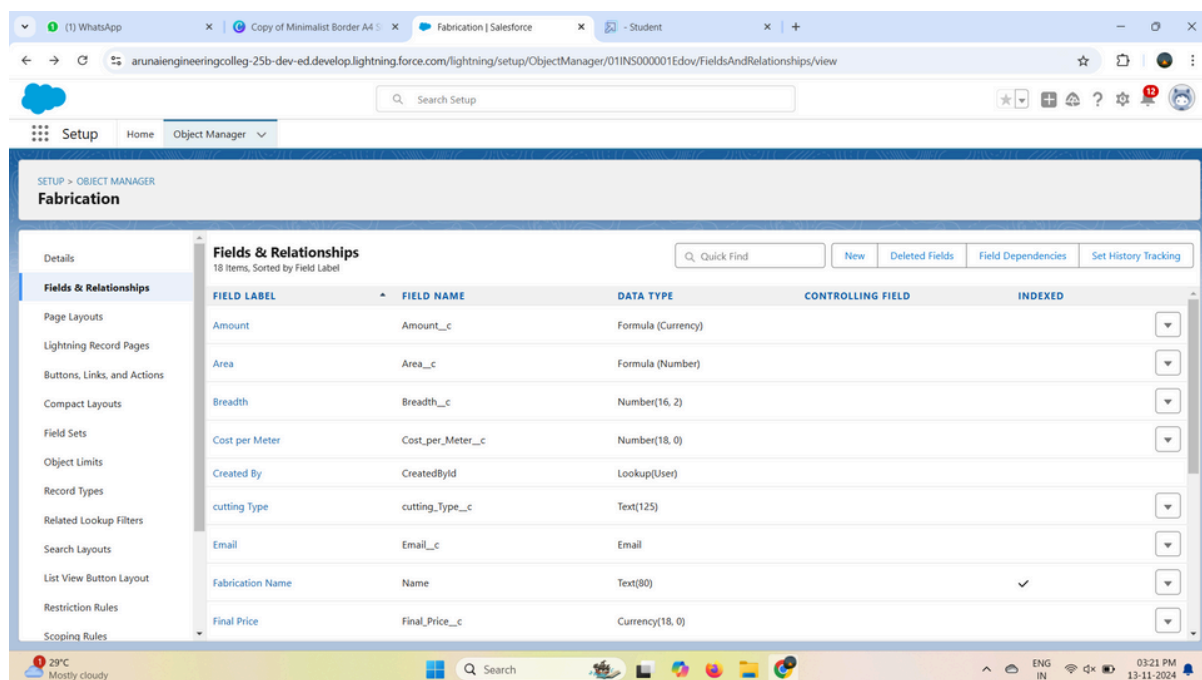
Search for the item in the (Fabrications, Shed Works, Pipe Linings, Workers) from the search bar and move it using the arrow button >> Next >> Next.

Save and Finish

Activity 4: Creation of Fields

Go to setup >> click on Object Manager >> type object name(Fabrication) in search bar >> click on the object.

Sample for fabrication object is shown as below, similarly create fields for shedwork worker and pipeline objects

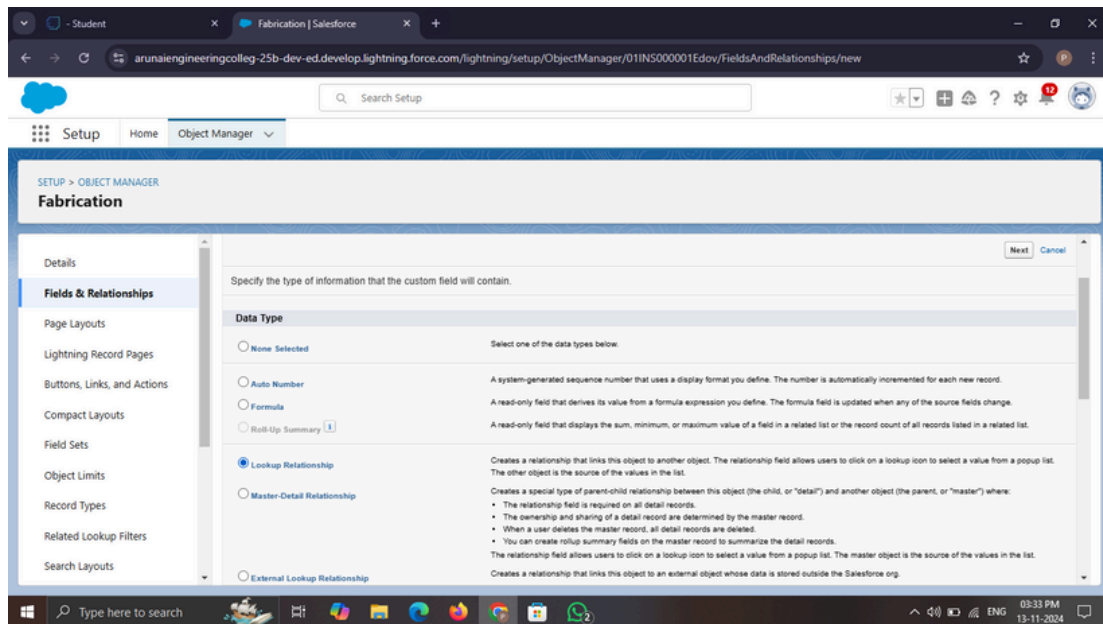


The screenshot shows the Salesforce Object Manager interface for the 'Fabrication' object. The 'Fields & Relationships' section is active, displaying a list of 18 fields sorted by Field Label. The fields are as follows:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Formula (Currency)		
Area	Area__c	Formula (Number)		
Breadth	Breadth__c	Number(16, 2)		
Cost per Meter	Cost_per_Meter__c	Number(18, 0)		
Created By	CreatedById	Lookup(User)		
cutting Type	cutting_Type__c	Text(125)		
Email	Email__c	Email		
Fabrication Name	Name	Text(80)		✓
Final Price	Final_Price__c	Currency(18, 0)		

Here, we created fields for the objects as area,length,breadth,amount,cost per meter,cutting type etc.,,,

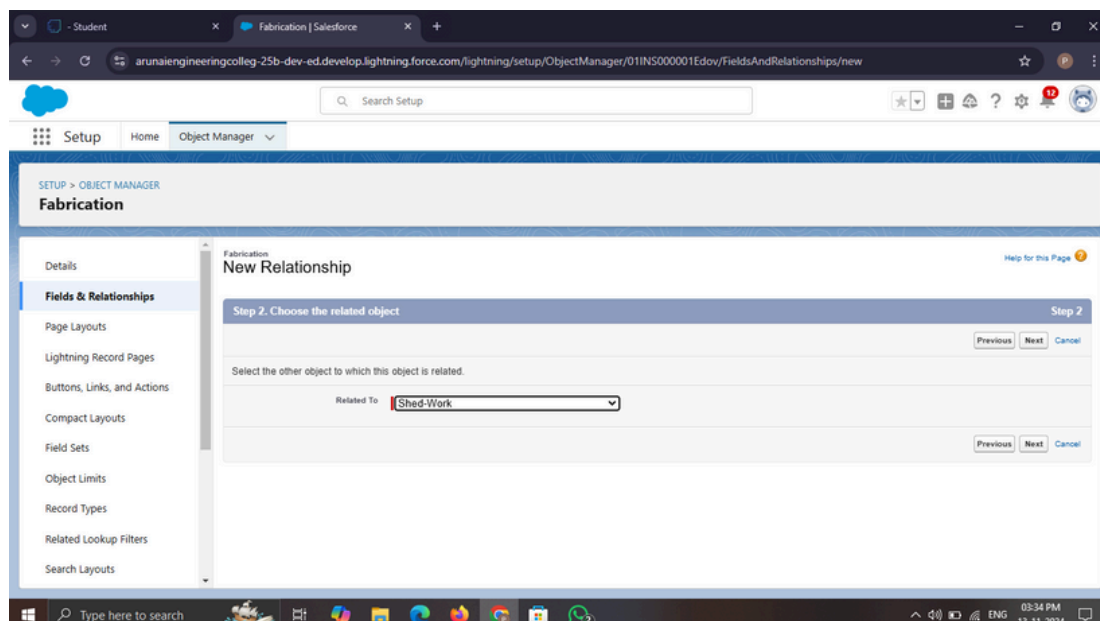
Creation of Lookup fields:



The screenshot shows the Salesforce Setup interface for the 'Fabrication' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area is titled 'Specify the type of information that the custom field will contain.' and lists several data types with their descriptions:

- ☐ None Selected: Select one of the data types below.
- ☐ Auto Number: A system-generated sequence number that uses a display format you define. The number is automatically incremented for each new record.
- ☐ Formula: A read-only field that derives its value from a formula expression you define. The formula field is updated when any of the source fields change.
- ☐ Roll-Up Summary: A read-only field that displays the sum, minimum, or maximum value of a field in a related list or the record count of all records listed in a related list.
- ☒ Lookup Relationship: Creates a relationship that links this object to another object. The relationship field allows users to click on a lookup icon to select a value from a popup list. The other object is the source of the values in the list.
- ☐ Master-Detail Relationship: Creates a special type of parent-child relationship between this object (the child, or "detail") and another object (the parent, or "master") where:
 - The relationship field is required on all detail records.
 - The ownership and sharing of a detail record are determined by the master record.
 - When a user deletes the master record, all detail records are deleted.
 - You can create rollup summary fields on the master record to summarize the detail records.
- ☐ External Lookup Relationship: Creates a relationship that links this object to an external object whose data is stored outside the Salesforce org.

Create the relationships between the objects .

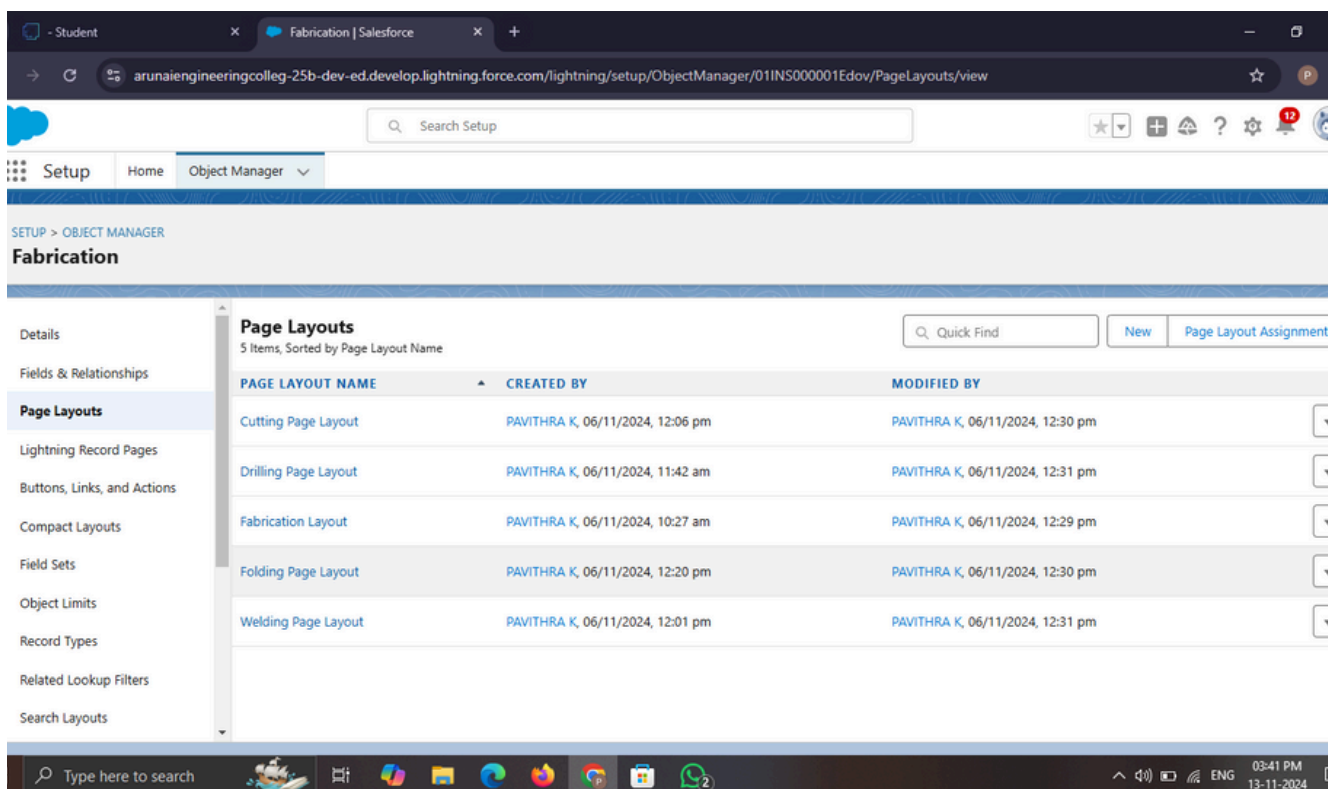


The screenshot shows the 'New Relationship' page in the Salesforce Setup interface for the 'Fabrication' object. The left sidebar is the same as the previous screenshot. The main content area is titled 'New Relationship' and shows 'Step 2. Choose the related object'. It includes a dropdown menu labeled 'Related To' with 'Shed-Work' selected. Navigation buttons 'Previous', 'Next', and 'Cancel' are visible at the top and bottom of the step.

Activity 5: Creation of Page Layouts

Here we have created Four Page Layouts (For Drilling, For Welding, For Cutting, For Folding)

Steps for creating pagelayout for fabrication object is shown as below for sample:

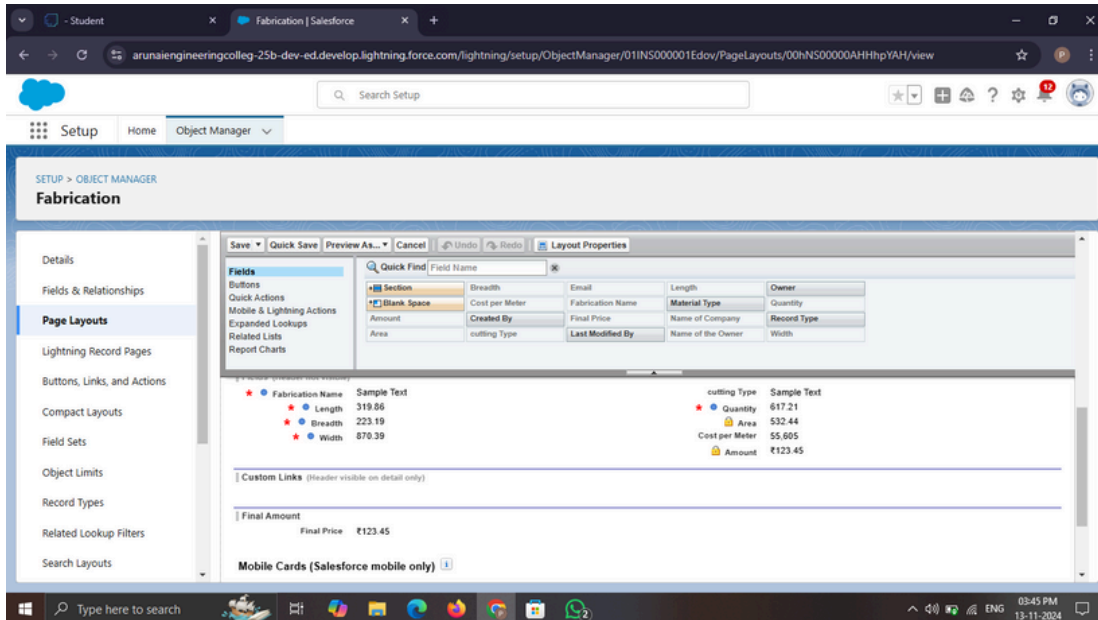


The screenshot shows the Salesforce Setup interface for the Fabrication object. The left sidebar lists various setup options, with 'Page Layouts' selected. The main content area displays a table of five page layouts, sorted by name. Each row includes the layout name, the user who created it, and the creation/modification timestamp. A 'Quick Find' search bar and 'New' and 'Page Layout Assignment' buttons are located at the top right of the table.

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Cutting Page Layout	PAVITHRA K, 06/11/2024, 12:06 pm	PAVITHRA K, 06/11/2024, 12:30 pm
Drilling Page Layout	PAVITHRA K, 06/11/2024, 11:42 am	PAVITHRA K, 06/11/2024, 12:31 pm
Fabrication Layout	PAVITHRA K, 06/11/2024, 10:27 am	PAVITHRA K, 06/11/2024, 12:29 pm
Folding Page Layout	PAVITHRA K, 06/11/2024, 12:20 pm	PAVITHRA K, 06/11/2024, 12:30 pm
Welding Page Layout	PAVITHRA K, 06/11/2024, 12:01 pm	PAVITHRA K, 06/11/2024, 12:31 pm

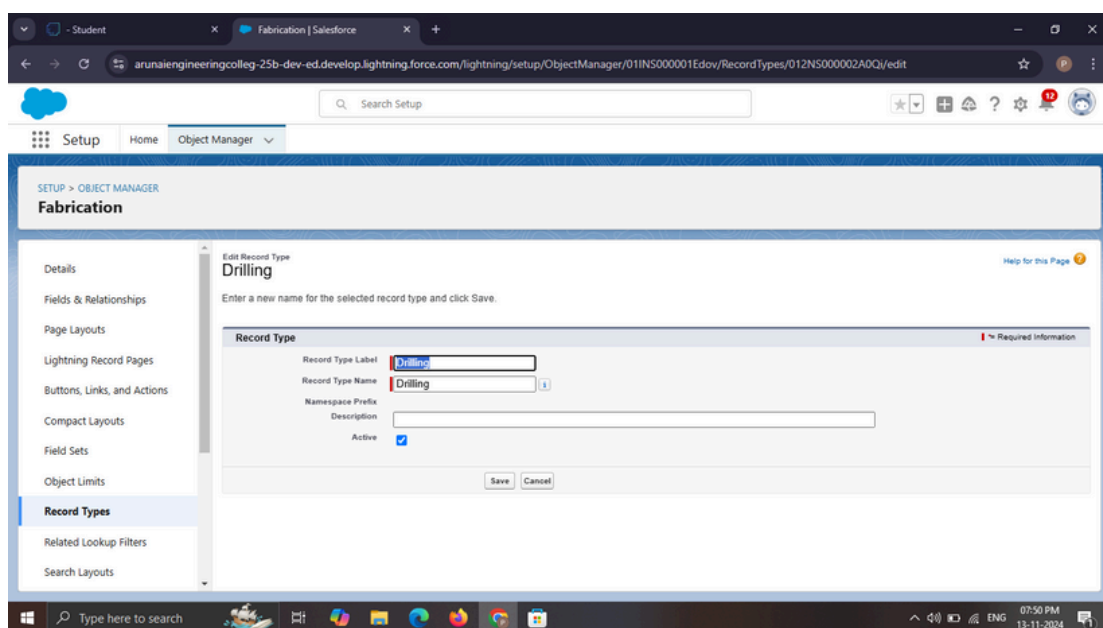
We Created Page layouts for other fields are created similarly

Drag the necessary fields in the given section



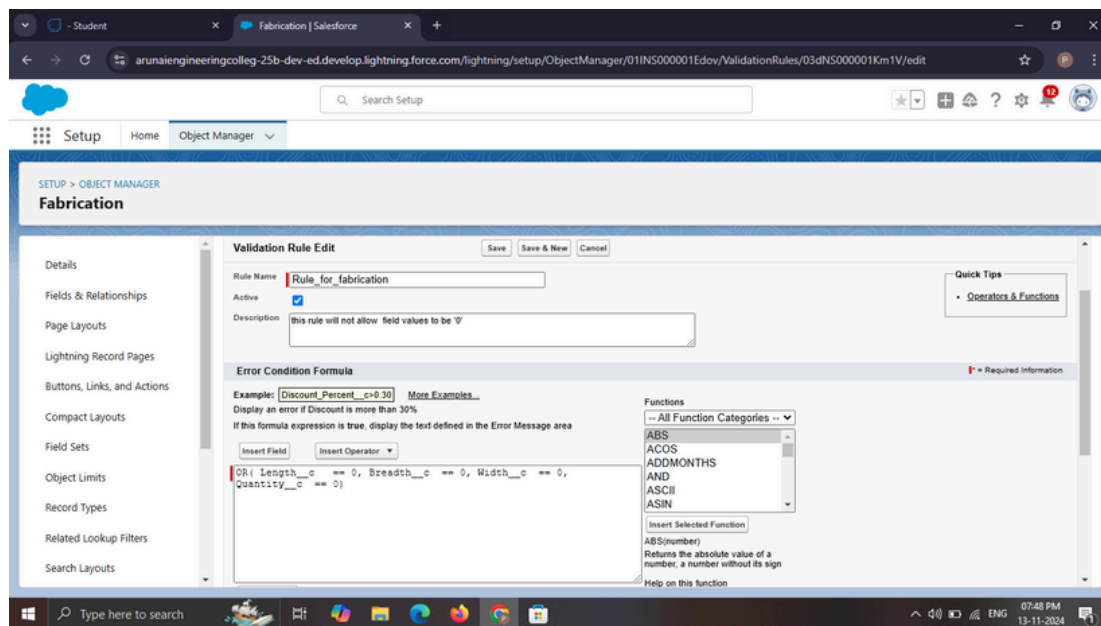
Activity 6: Creation of Record Types

We have created the record types for each page layout.



Activity 7: Validation Rule

Create the Validation Rule for each objects for length, breadth, area, amount, etc.,



Activity 8: Email templates

The Email template includes the following steps:

- Upload Logo into Salesforce

Here we can upload our application Logo to Salesforce.

- Creation of Letterhead for Email Purpose
- Create Email Template

Here we created the Template for our email. (here "Bill Template")

It includes the email body, header and footer.

- Create Email alerts



Student Classic Email Templates | Sales |

arunaiengineeringcolleg-25b-dev-ed.develop.lightning.force.com/lightning/setup/CommunicationTemplatesEmail/home

email te

Setup Home Object Manager

Quick Find

Setup Home

- Service Setup Assistant
- Commerce Setup Assistant
- Hyperforce Assistant
- Release Updates
- Lightning Experience Transition Assistant
- Salesforce Mobile App
- Lightning Usage
- Optimizer
- Sales Cloud Everywhere

ADMINISTRATION

- Users
- Data
- Email

SETUP Classic Email Templates

Edit	Del	Template Name	Type	Status	Description	Created By	Created Date
		Appointment for Unauthenticated User using Appointment Types - For third party	Custom	✓	Email template for confirmation of an appointment when appointments are scheduled using appointment types with third party video applications	stfscadm	06/11/2024
		Appointment for Unauthenticated User using Engagement Channels For Amazon Chime	Custom	✓	Email template for confirmation of an appointment when appointments are scheduled using engagement channels with Amazon Chime.	stfscadm	06/11/2024
		Appointment for Unauthenticated User using Engagement Channels For third party	Custom	✓	Email template for confirmation of an appointment when appointments are scheduled using engagement channels with third party video applications	stfscadm	06/11/2024
		Bill Template3	HTML	✓		PK	06/11/2024
		Bill Template	HTML	✓		PK	06/11/2024
		Bill Template2	HTML	✓		PK	06/11/2024
		Canceled Service Appointment Confirmation Email	Custom	✓	Email Template to confirm canceling of a service appointment.	stfscadm	06/11/2024
		Commerce Reorder Portal Invitation	Custom	✓	Invite a contact to a Commerce Reorder Portal.	stfscadm	06/11/2024
		Group Service Appointments Enrollment Confirmation Email	Custom	✓	Email Template to confirm enrollment of an attendee to a Group service appointment.	stfscadm	06/11/2024
		Marketing Product Inquiry Response	Text	✓	Standard email response to website product inquiries	PK	06/11/2024
		Rescheduled Service Appointment Confirmation Email	Custom	✓	Email Template to confirm rescheduling of a service appointment.	stfscadm	06/11/2024
		Sales New Customer Email	Text	✓	Email to new customers	PK	06/11/2024
		Scheduled Service Appointment Confirmation Email	Custom	✓	Email Template to confirm scheduling of a service appointment.	stfscadm	06/11/2024
		SUPPORT Self-Service New Comment Notification (SAMPLE)	Text	✓	Sample email template that can be sent to your Self-Service customers to notify them a public comment has been added to their case	PK	06/11/2024

Type here to search

06:08 PM 13-11-2024

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arunaiengineeringcolleg-25b-dev-ed.develop.lightning.force.com/lightning/setup/CommunicationTemplatesEmail/page?address=%2F00XNS000002VbUT%3Fsetupid%3DCo...

email te

Setup Home Object Manager

Quick Find

Setup Home

- Service Setup Assistant
- Commerce Setup Assistant
- Hyperforce Assistant
- Release Updates
- Lightning Experience Transition Assistant
- Salesforce Mobile App
- Lightning Usage
- Optimizer
- Sales Cloud Everywhere

ADMINISTRATION

- Users
- Data
- Email

SETUP Classic Email Templates

HTML Email Template

Bill Template3

Preview your email template below.

Edit Properties Edit HTML Version Edit Text Version Delete Clone

Email Template Detail

Email Templates from Salesforce

Unified Public Classic Email Templates

Email Template Name

Bill Template3

Available For Use

Template Unique Name

Bill_Template3

Last Used Date

Classic Letterhead

Letterhead for Email Purpose

Times Used

Email Layout

Formal Letter

Encoding

Unicode (UTF-8)

Author

PAVITHRA K (Chappe)

Description

Created By

PAVITHRA K 06/11/2024, 3:42 pm

Modified By

PAVITHRA K 06/11/2024, 3:42 pm

Edit Properties Edit HTML Version Edit Text Version Delete Clone

Email Template

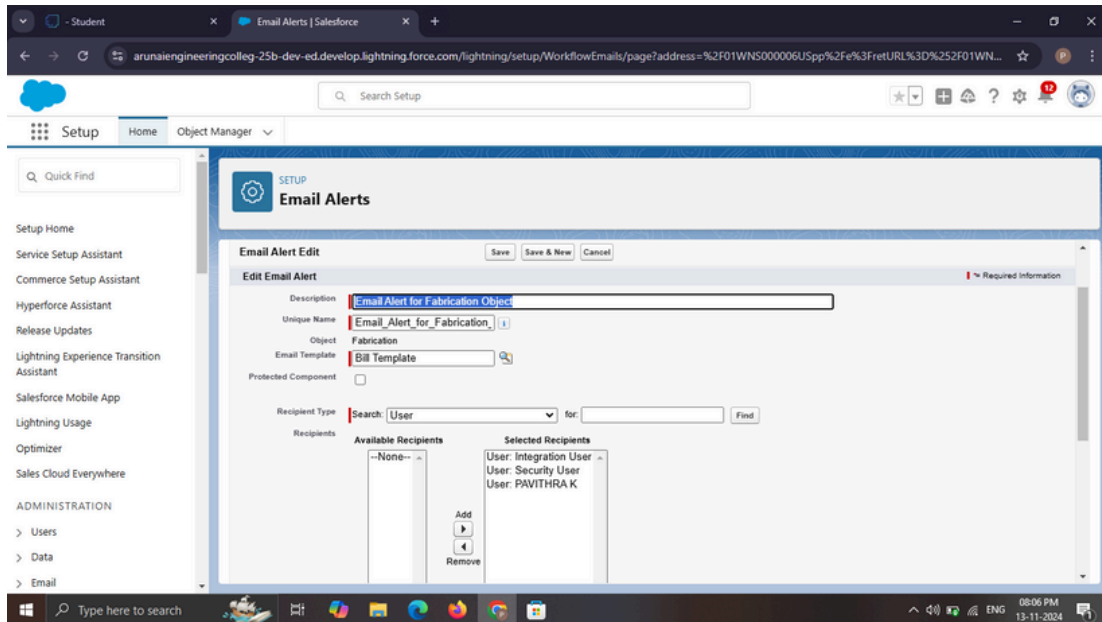
Send Text and Verify Merge Fields

Subject

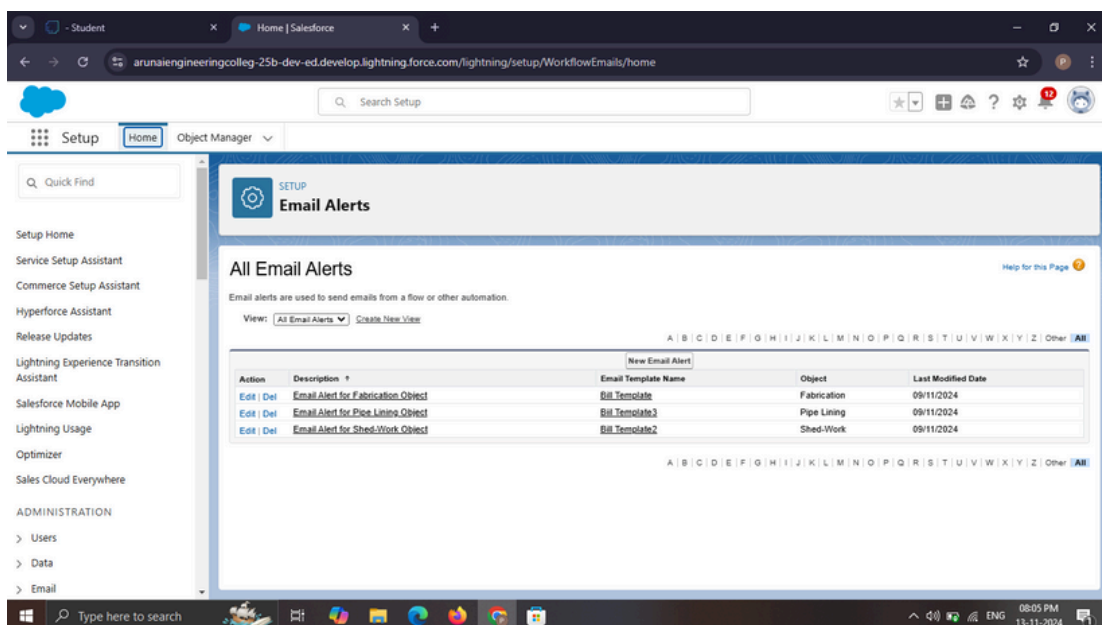
Pipe Lining Template

Type here to search

06:12 PM 13-11-2024



Similarly we created Email Alerts for all the objects.



Activity 9: Flows

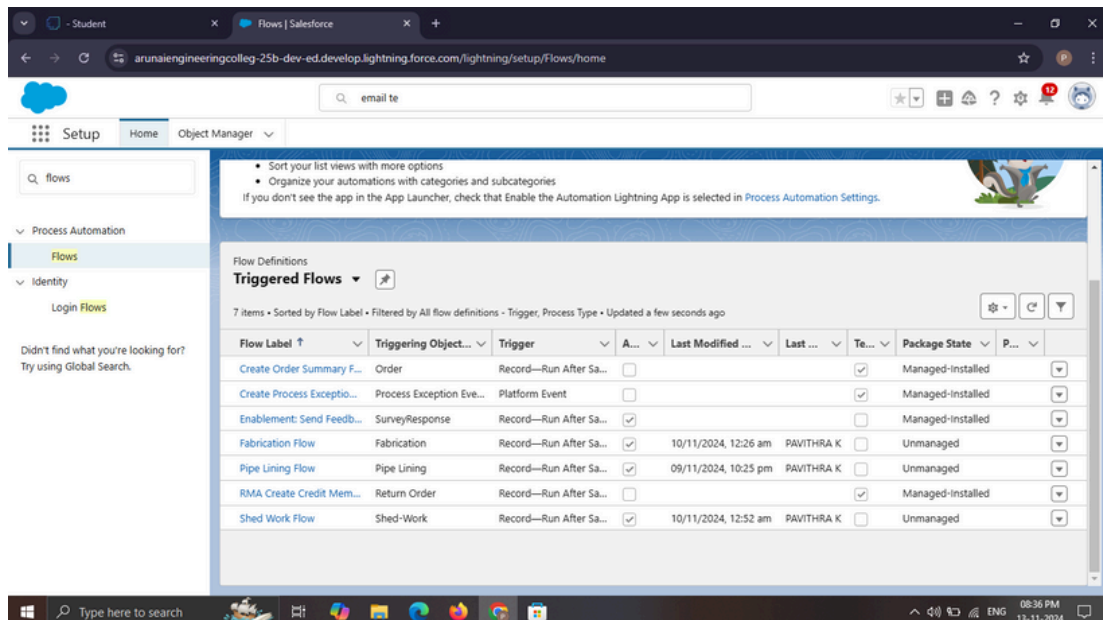
- To create flows for final price on each object

(Fabrication, Shed-Work, Pipe-Lining)

- Create Record-Triggered Flows for each object.
- Add Action(Email Alert of that object)
- Add Decision Elements (Create Outcomes for Metal, Iron, Wood, Aluminum, etc.,
- Add Update Record Elements and other necessary element to the flow.
- Run the Flow after creating the necessary elements in the flow.
- Finally save the flow with a unique API_name .
- Note: All the flow elements in each flow should have unique API_name . This will help us not to confuse over the flow elements.

Sample images inserted to view the flow creation process.

List of Flows created for Fabrication, Shed-Work, Pipe-Lining Objects.



Flow Definitions

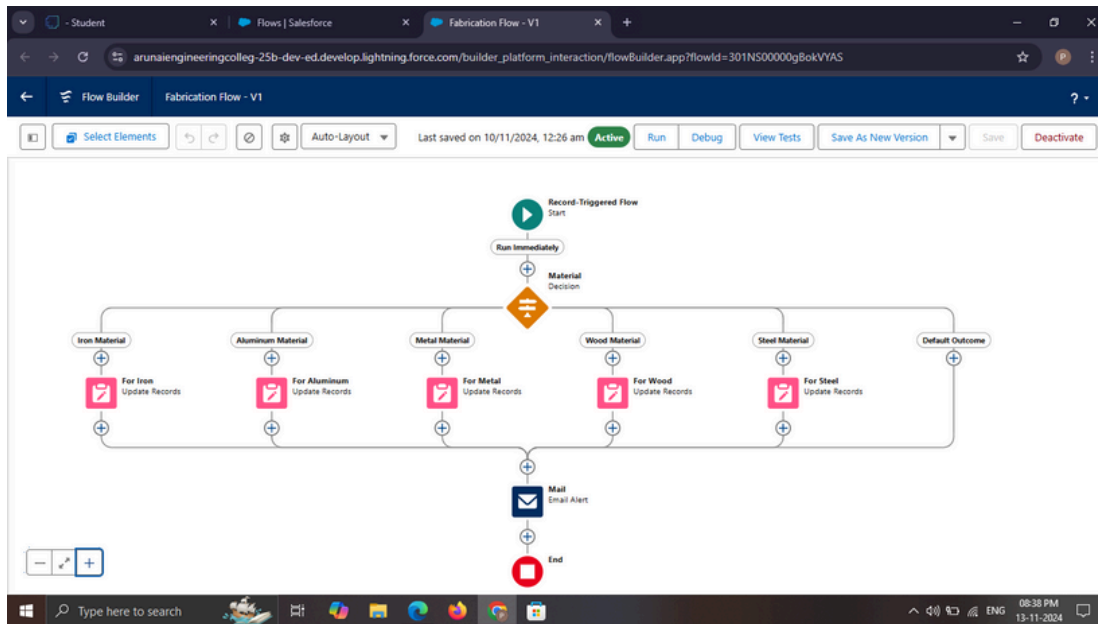
Triggered Flows

7 items • Sorted by Flow Label • Filtered by All flow definitions - Trigger, Process Type • Updated a few seconds ago

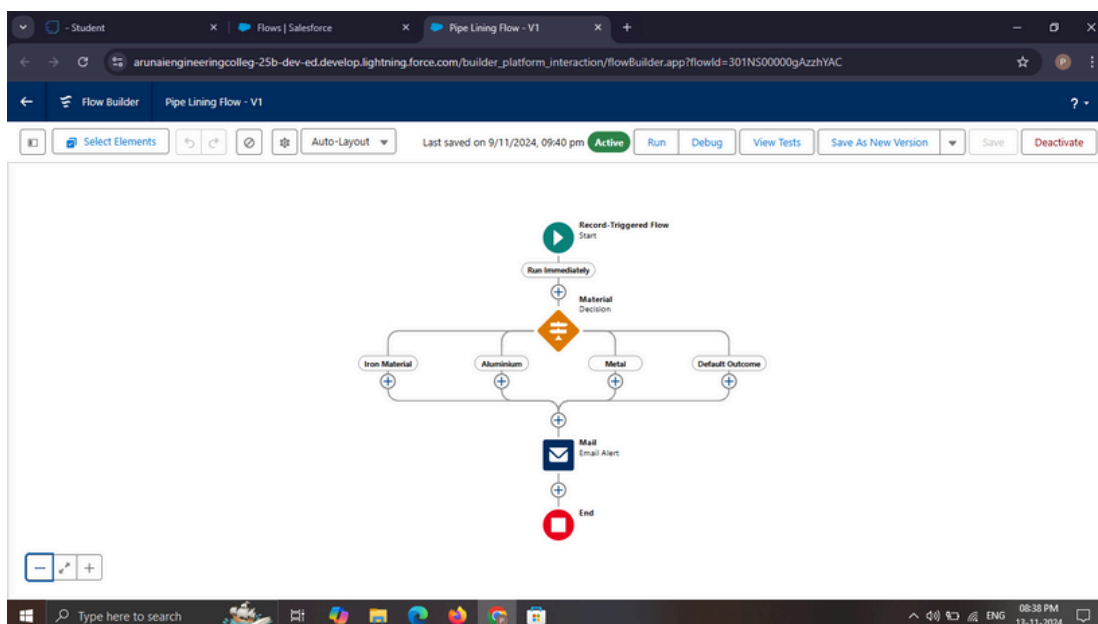
Flow Label	Triggering Object	Trigger	A...	Last Modified	Last ...	Te...	Package State	P...
Create Order Summary F...	Order	Record—Run After Sa...	<input type="checkbox"/>			<input checked="" type="checkbox"/>	Managed-installed	
Create Process Exceptio...	Process Exception Eve...	Platform Event	<input type="checkbox"/>			<input checked="" type="checkbox"/>	Managed-installed	
Enablement: Send Feedb...	SurveyResponse	Record—Run After Sa...	<input checked="" type="checkbox"/>			<input type="checkbox"/>	Managed-installed	
Fabrication Flow	Fabrication	Record—Run After Sa...	<input checked="" type="checkbox"/>	10/11/2024, 12:26 am	PAVITHIRA K	<input type="checkbox"/>	Unmanaged	
Pipe Lining Flow	Pipe Lining	Record—Run After Sa...	<input checked="" type="checkbox"/>	09/11/2024, 10:25 pm	PAVITHIRA K	<input type="checkbox"/>	Unmanaged	
RMA Create Credit Mem...	Return Order	Record—Run After Sa...	<input type="checkbox"/>			<input checked="" type="checkbox"/>	Managed-installed	
Shed Work Flow	Shed-Work	Record—Run After Sa...	<input checked="" type="checkbox"/>	10/11/2024, 12:52 am	PAVITHIRA K	<input type="checkbox"/>	Unmanaged	

Flow Name Should be unique

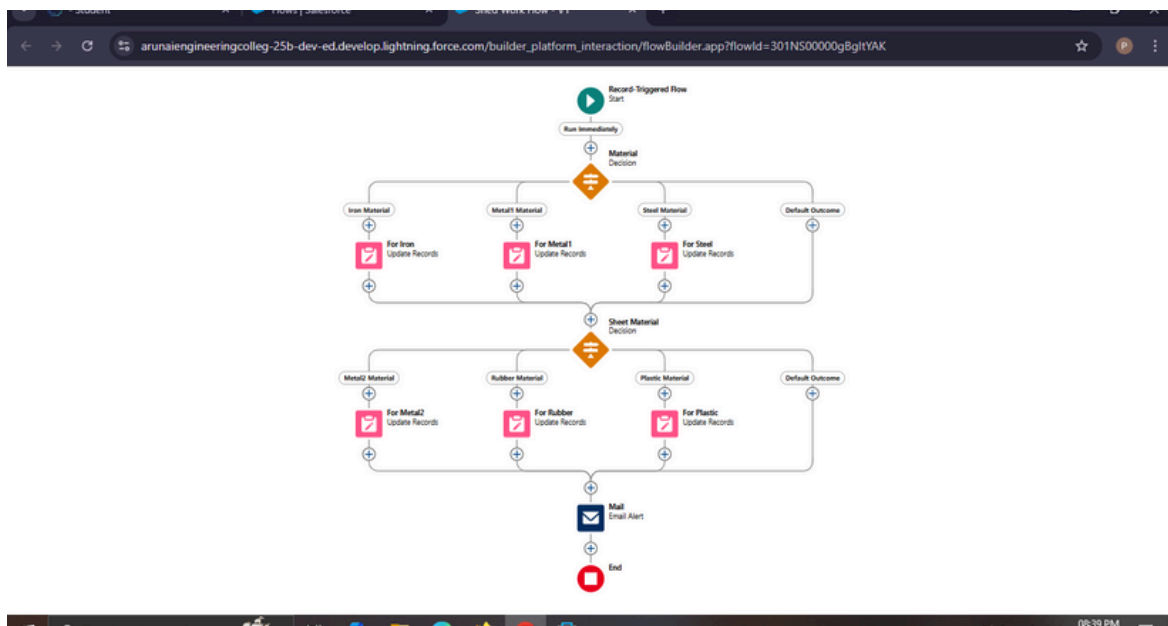
Flow of Fabrication Object:



Flow of Shed-Work Object:



Flow of Pipe-Lining Object:



For Pipe-Lining Object ,we have created two decision elements such as metal1 and metal 2.

Thus creation of flows is done and once done we should run the flow to check whether the flow is working according to project flow.

Conclusion:

This Engineering Works Project automates the calculation of area whenever a record is created or updated, utilizing parameters such as length, breadth, and width, as well as quantity and cost per meter. The final amount is then determined based on the area and material type.

