S.K.P ENGINEERING COLLEGE

College in Kilnachipattu, Tamil Nadu 606611.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

BACHELOR OF ENGINEERING

2024 - 2025

A CRM Application to Handle the Clients and their property Related Requirements

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Head of the Department

Submitted for the

Practical Examination held on

Internal Examiner

External Examiner

A CRM Application to Handle the Clients and their property Related Requirements

PROJECT OVERVIEW:

Dreams World Properties integrates Salesforce to streamline customer interactions. Website engagement triggers automated record creation in Salesforce, capturing customer details and preferences. Salesforce categorizes users as approved or non-approved, offering tailored property selections to approved users. This enhances user experience and efficiency, providing personalized recommendations and broader listings. Seamless integration optimizes operations, improving customer engagement and facilitating growth in the real estate market.

Objectives : -

1) Website Integration Requirements :

Implement a form on the website for users to express interest in property listings.
Ensure the form captures essential details such as name, contact information, preferred property type, location, budget, etc. Set up validation rules to ensure data accuracy and completeness.
Integrate the form submission process with Salesforce.

2) Salesforce Configuration Requirements :

Set up Salesforce objects and fields to store customer data. This includes fields for name, contact information, preferences, approval status, etc. Define workflows or processes to automate the creation of records when a user submits the form on the website. Configure Salesforce security settings to control access to customer records based on approval status.

3) Approval Process Requirements :

Define criteria for categorizing users as approved or non-approved based on specific parameters such as budget, property preferences, etc. Implement an approval process in Salesforce to review and approve users. Set up email notifications or alerts to notify relevant stakeholders when a user is approved or rejected. Ensure that approved users are granted access to curated property listings tailored to their preferences.

4) User Experience Requirements:

Design user interfaces in Salesforce for managing customer records, approval processes, and property listings. Ensure a seamless user experience for both customers and internal users interacting with Salesforce.

5) Integration Testing and Quality Assurance Requirements:

Conduct thorough testing of the integration between the website and Salesforce to ensure data is accurately captured and transferred. Perform end-to-end testing of the approval process to verify that users are categorized correctly and granted appropriate access.
Identify and resolve any issues or bugs encountered during testing.

6) Scalability and Performance Requirements:

Ensure that the integration and Salesforce configuration are scalable to accommodate future growth in customer volume and data. Optimize system performance to ensure responsiveness and reliability, especially during peak usage periods.

7) Documentation and Maintenance Requirements:

Document the integration architecture, data flows, and configuration details for future reference. Establish procedures for ongoing maintenance and updates to the integration and Salesforce configuration. Provide ongoing support and training for users to address any issues or questions that may arise.

Salesforce key feature and concept utilized:

1. Real Time Salesforce Project
2. Object & Fields
3. Integration Through Jotform
4. Roles
5. Application Management
6. Profiles

7. UserManagement

8. Approval Process

9. Flows

10. LWC Components

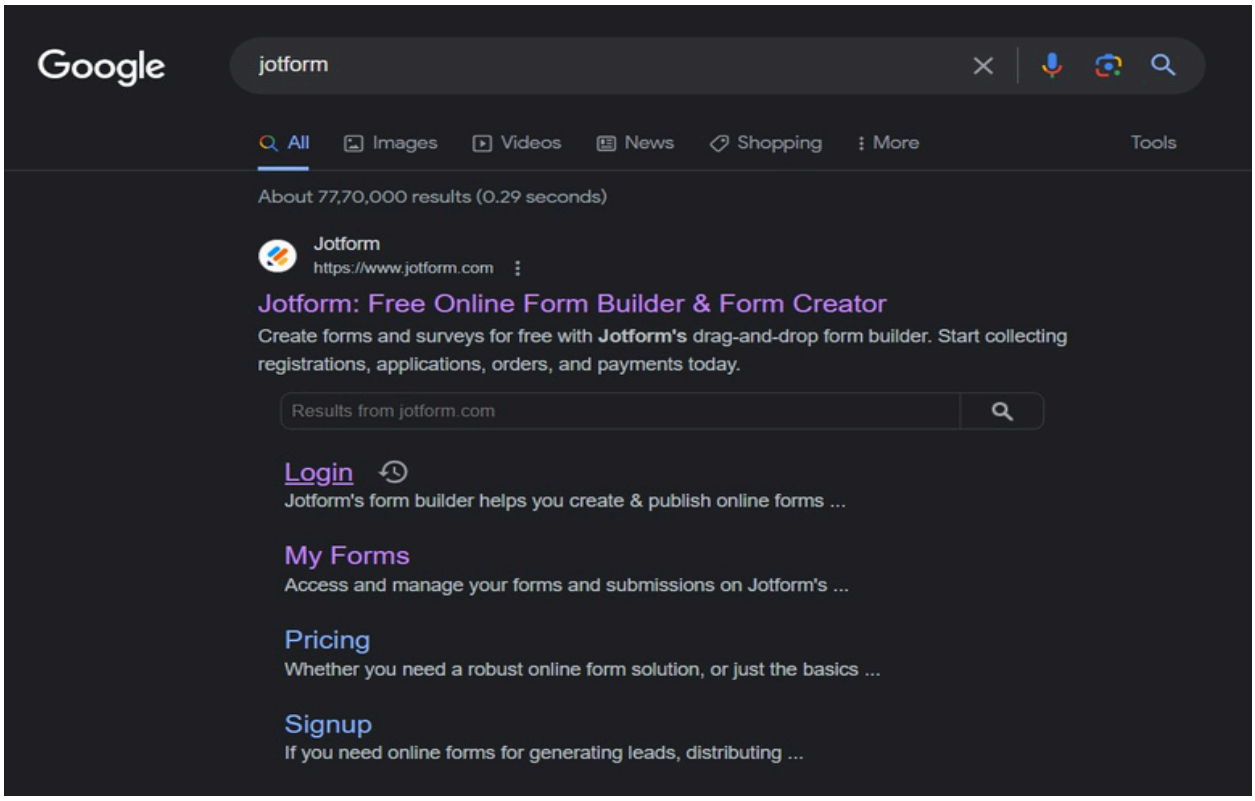
Detailed Steps to Solution Design:

- To create a CRM Application to handle the clients and their property related requirement we need the following steps

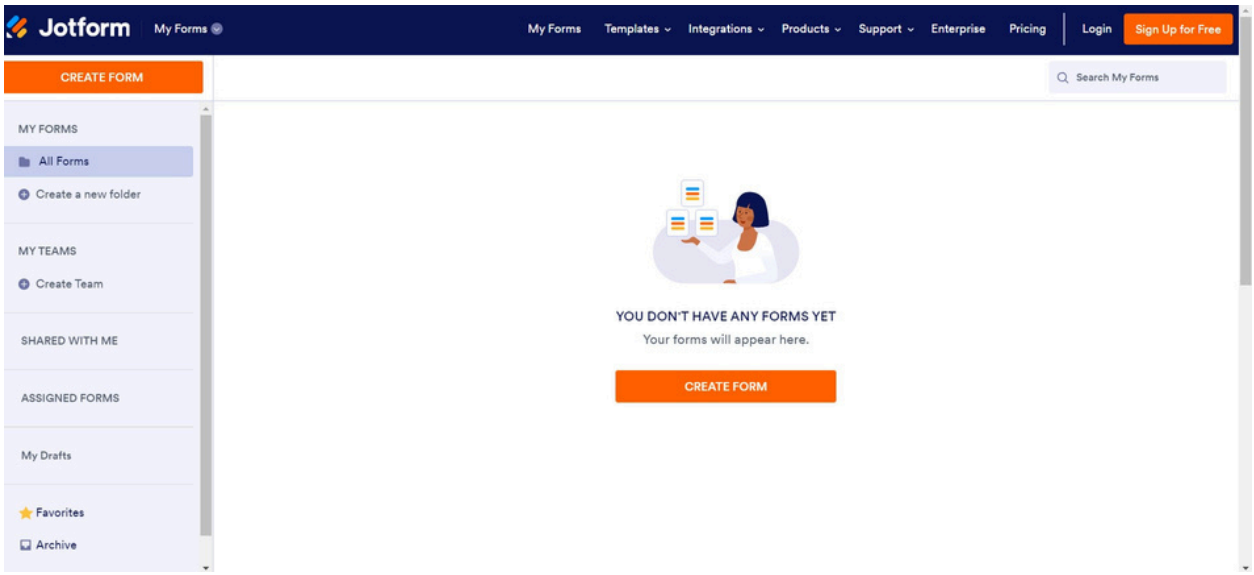
Milestone 1:- Create a jotform and integrate it with the org to create a record of customers automatically.

USE CASE : - Client wants a form for the customers to get the details directly into the salesforce so that the admins can create a user in the org.

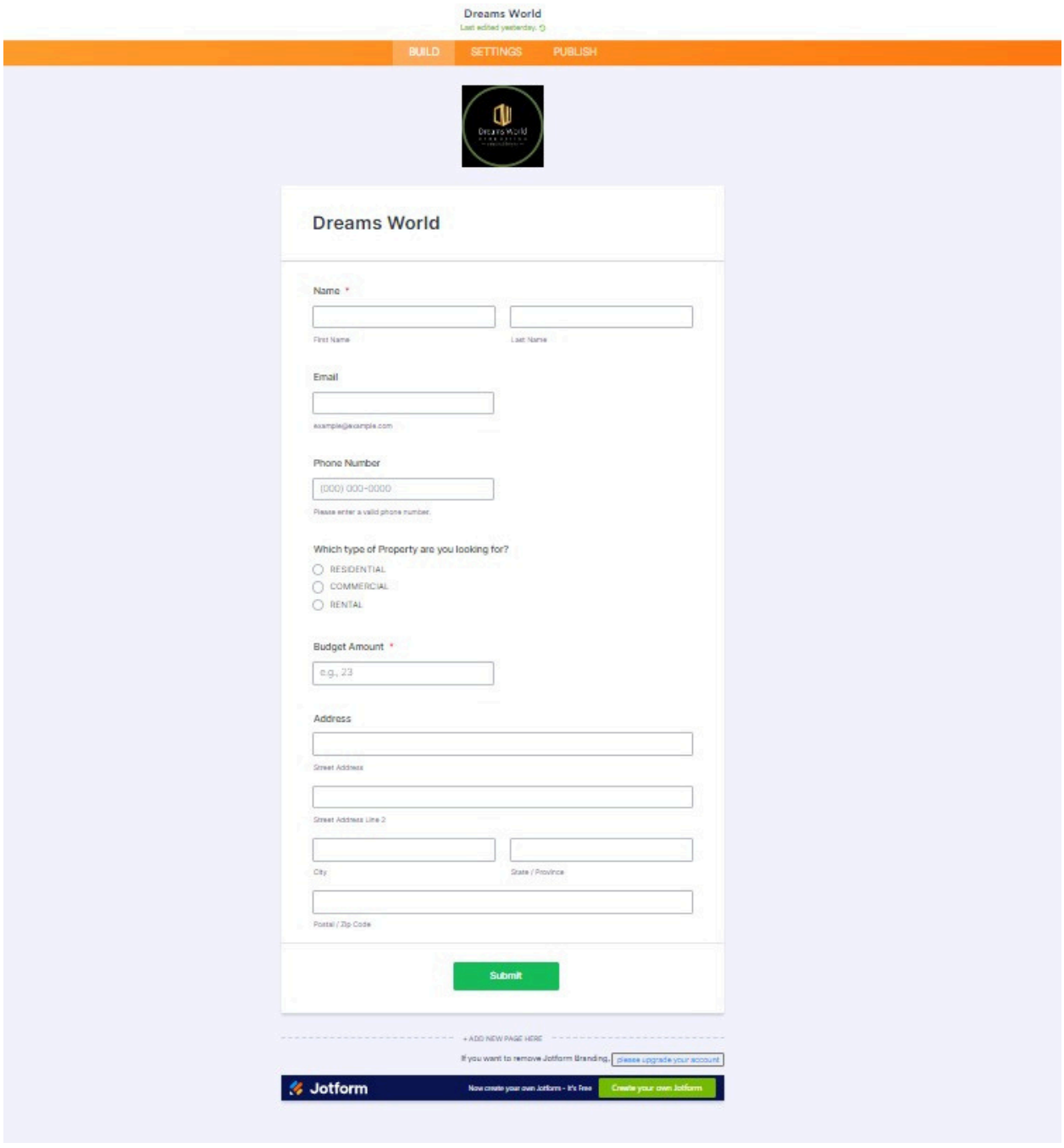
1) Open your browser and search for jotform and login.



2) After log in click on create form and click on start from scratch



3) Now create a form toget the customer details like Name,Phone,Email,Address and type of property the customer is interested in.



4) Once the form is created,publishit by clicking on publish.

https://www.jotform.com/form/240031134484041

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Milestone 2 :- Create Objects from Spreadsheet.

● Create Customer object

1) Go to your object manager and click on create object from spreadsheet

2) Click on the link toget the spreadsheet,

3) customer

4) After downloading,uploadthefile,map the fields and upload to create an object.

● Create Property object

1) Follow the same from the customer object to create the Property Object

2) Property

Milestone 3 : - Integrate Jotform with Salesforce Platform

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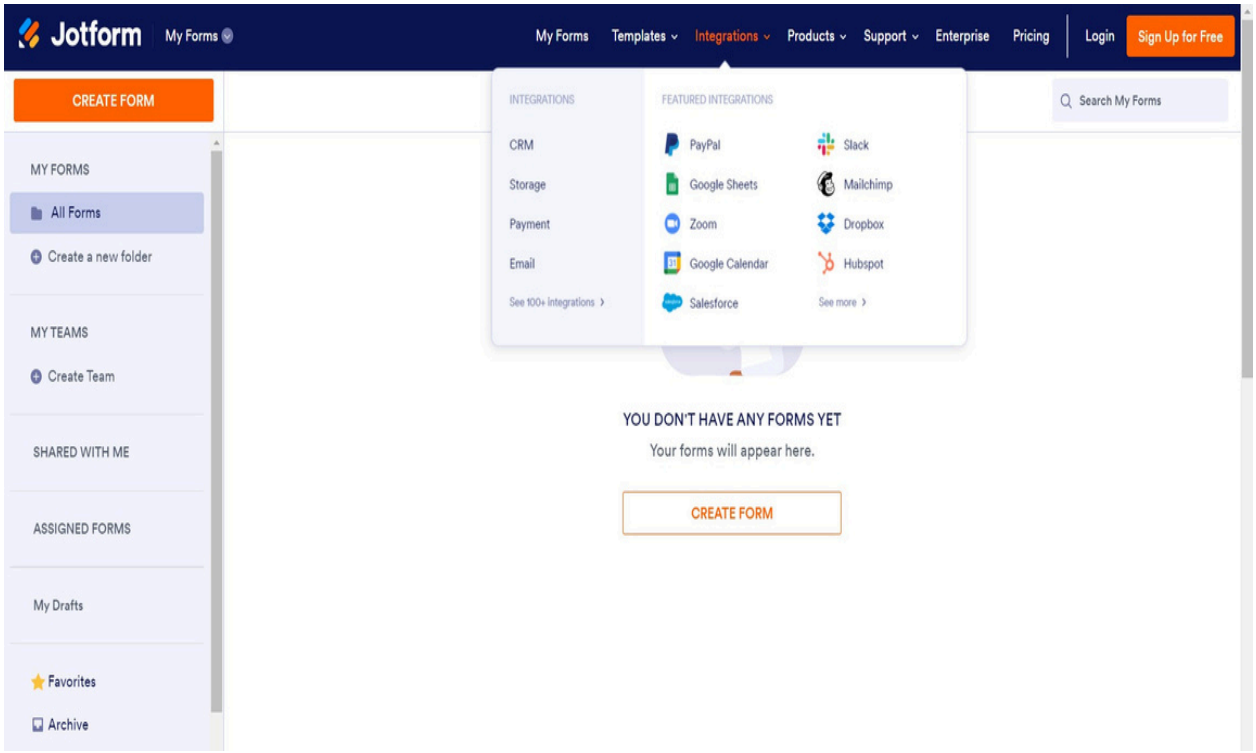
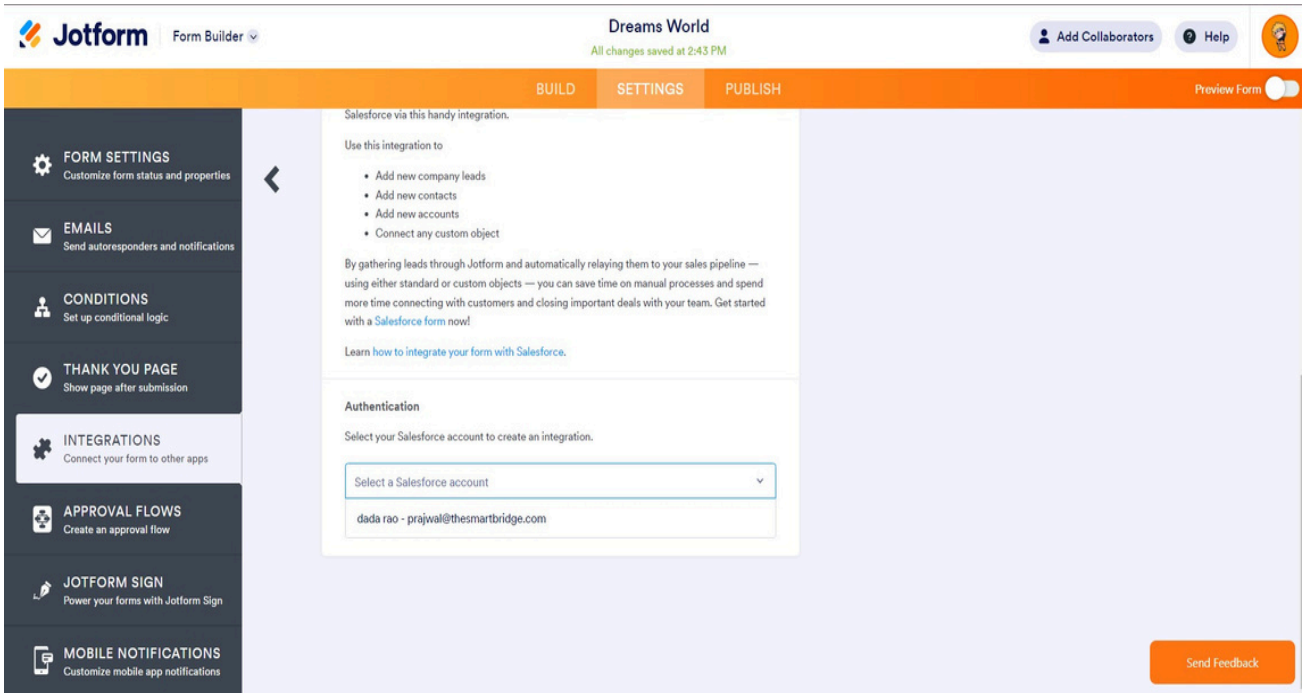
1) On the Jotform Platform,Click on Integration and choose Salesforce.

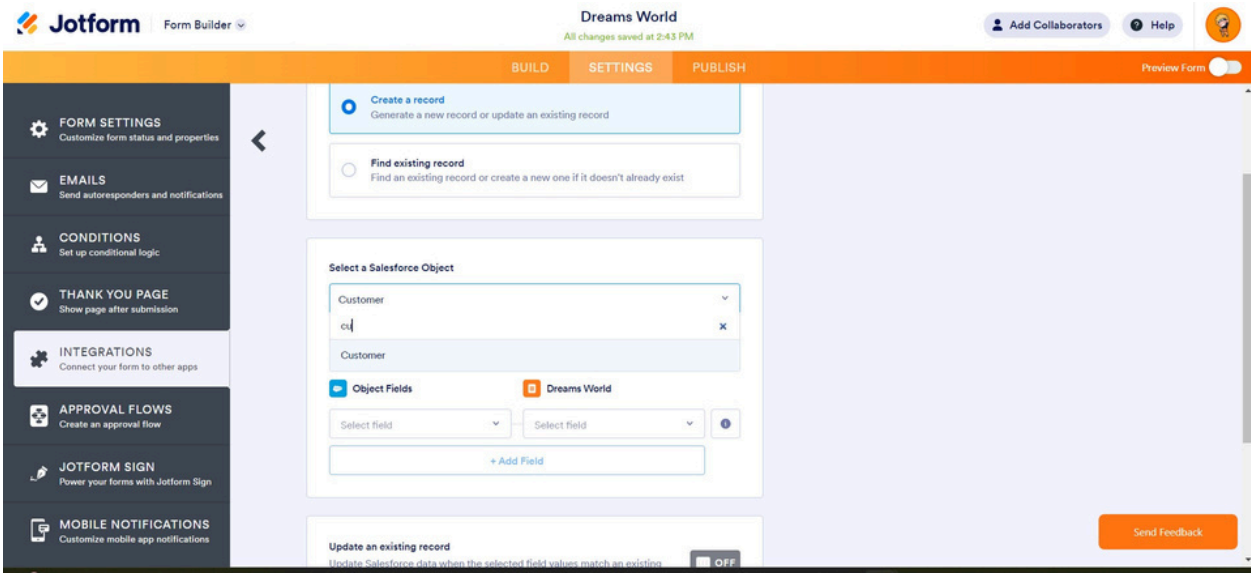


2) Click on User Integration and choose “Add to From”.

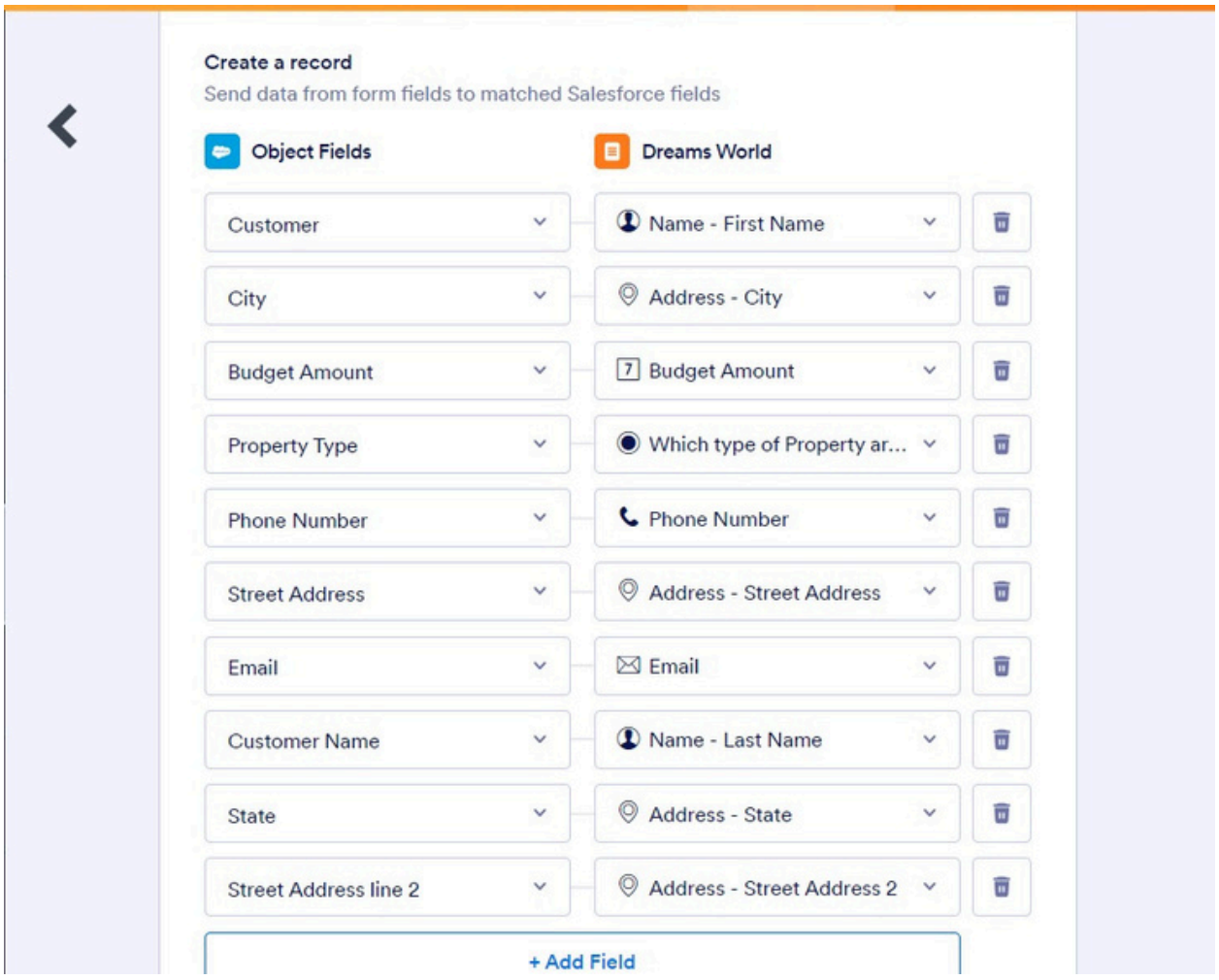
3) Select the Org with which you want to Integrate your jotform with.



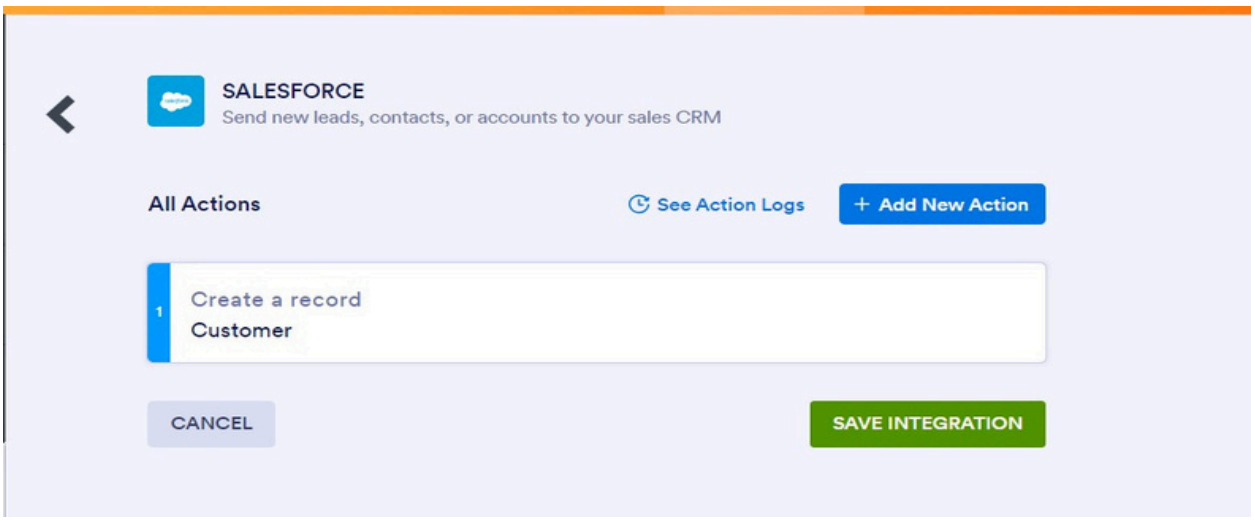
4) Select an Action - Create a record.
Select a Salesforce Object : - Customer



5) Map Each and every field on the Object with the fields on the form and“Save Action”.



6) Then“Save the Integration”and“Finish”.



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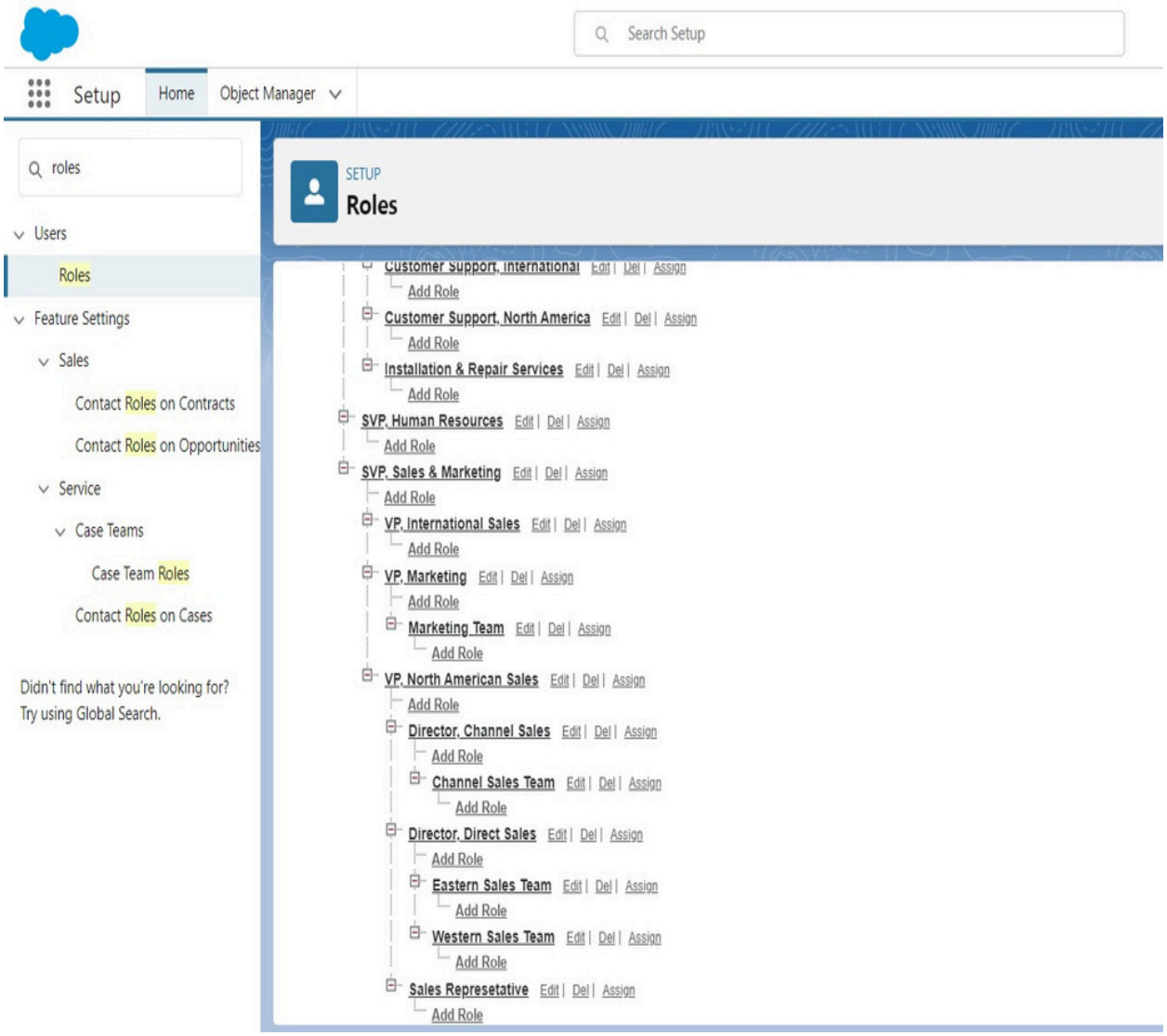
Milestone 4 : Create Roles

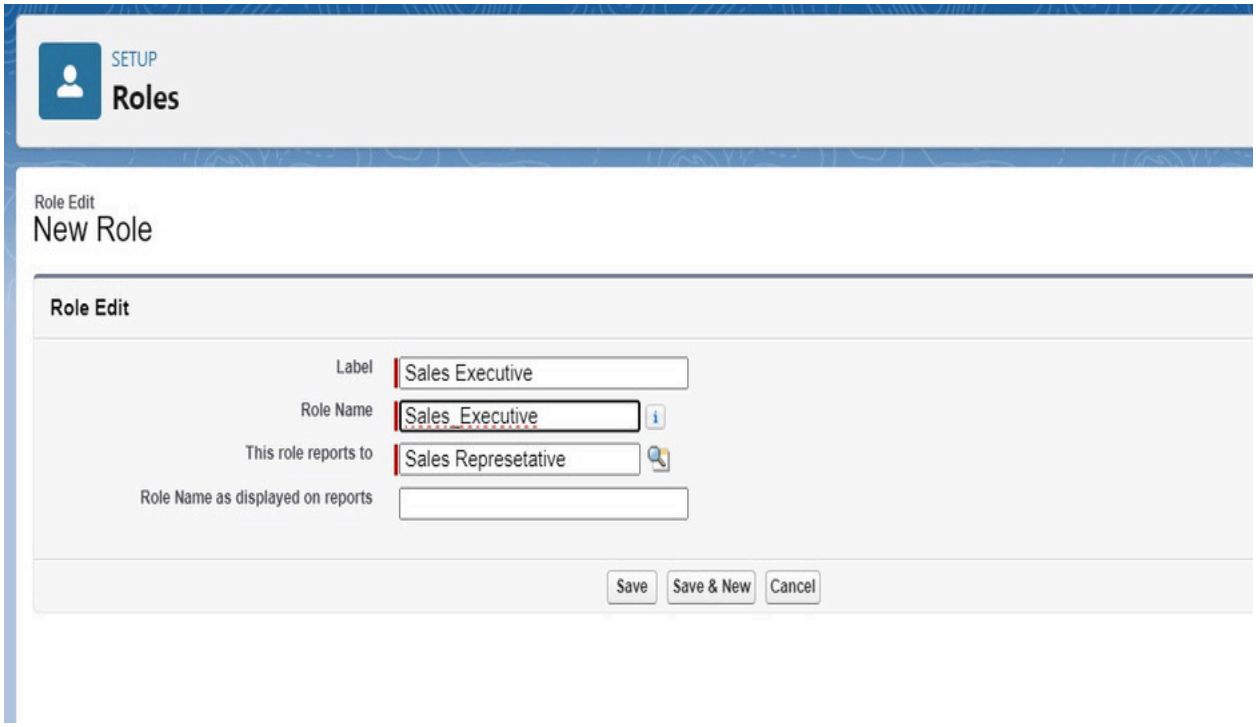
- SalesExecutiveRole

1) Go to Setup and Click on Roles, then click on Expand all and Add a Role just below the Sales Representative



* It will use the “System Administrator Profile”.

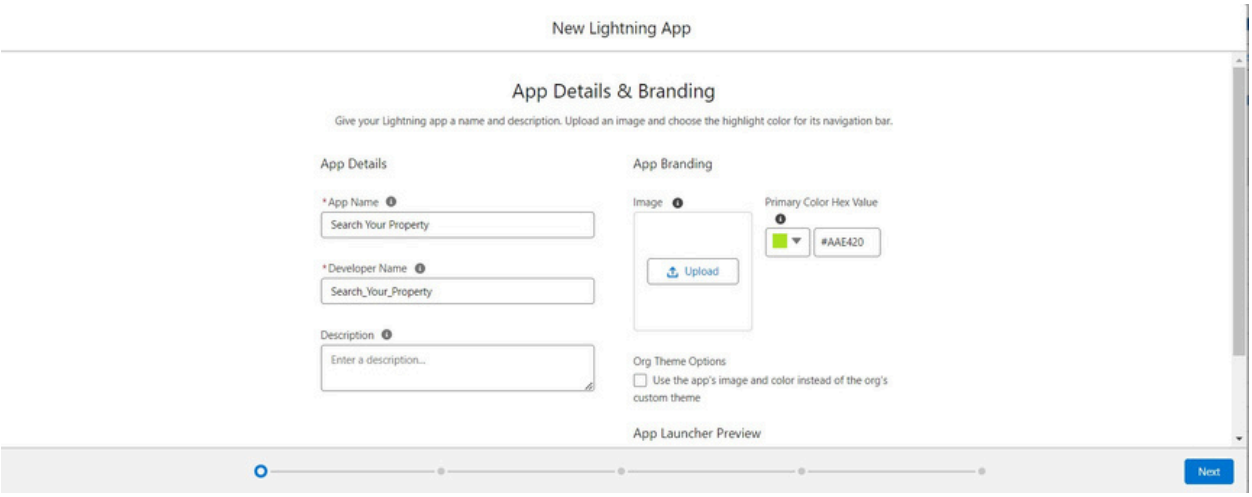
2) Label -SalesExecutive
Reports to - Sales Representative



- *Similarly Create a Role Name "Sales Manager" below Sales Executive which reports to Sales Executive, Also Add a Role below Sales Manager labeled as "Customer" which reports to Sales Manager.*

Milestone 5 : - Create a Property Details App

1) FromSetup—>GotoAppManagerandclickonNewLightningAppandNameitas “Property Details” and add “Customer” and “Property” Object.

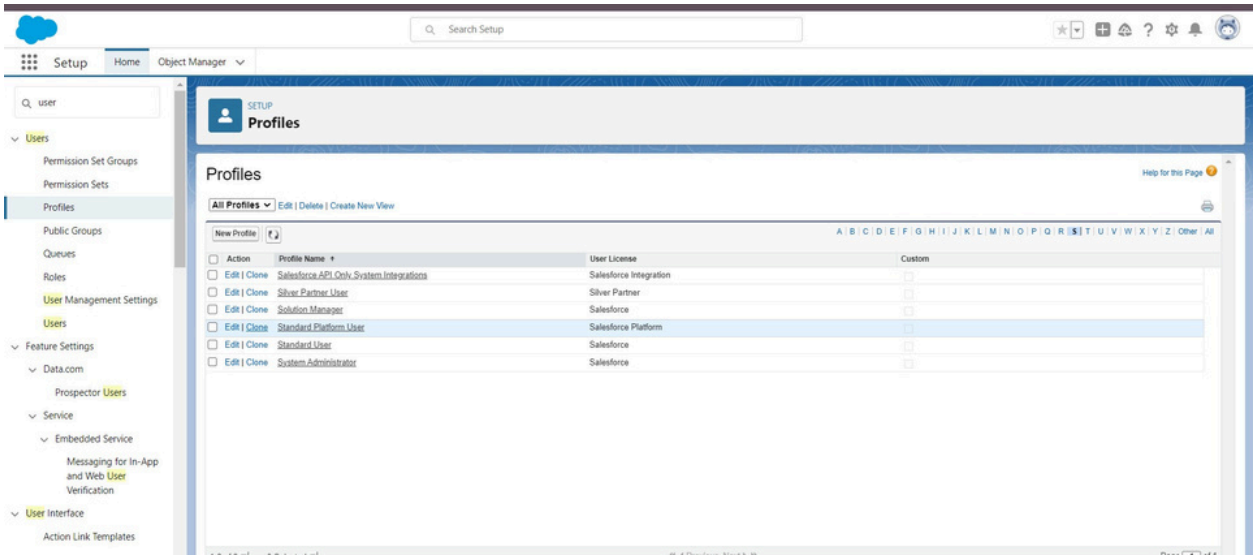


2) Click Next→ Next → Save and Add “System Admin ”Profile.

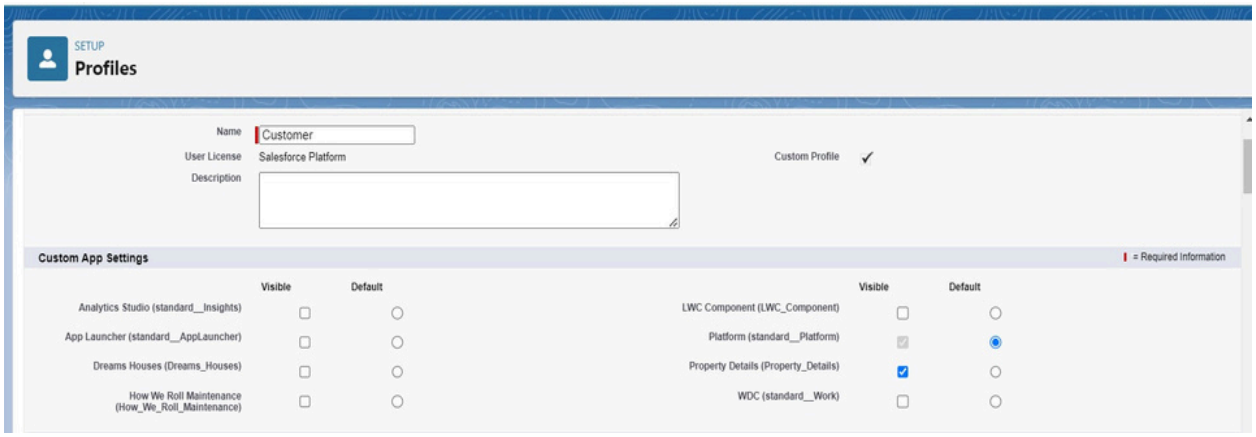
Milestone 6 : - Create Profiles

- Customer : -

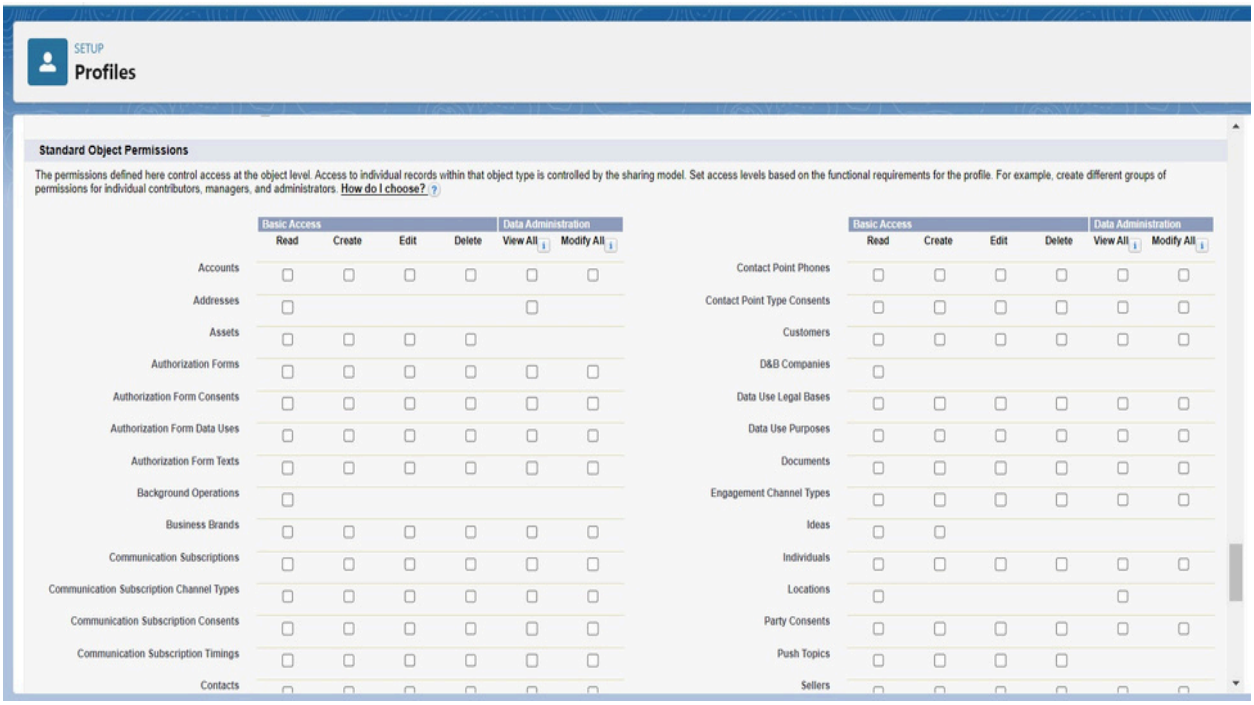
1) From Setup→ Go to Profiles and Clone Salesforce Platform User and Name it “Customer”..



2) Uncheck all the Custom Objects and Check only Property Details From Custom App Settings.



3) Also Remove all the Standard Object Permissions.

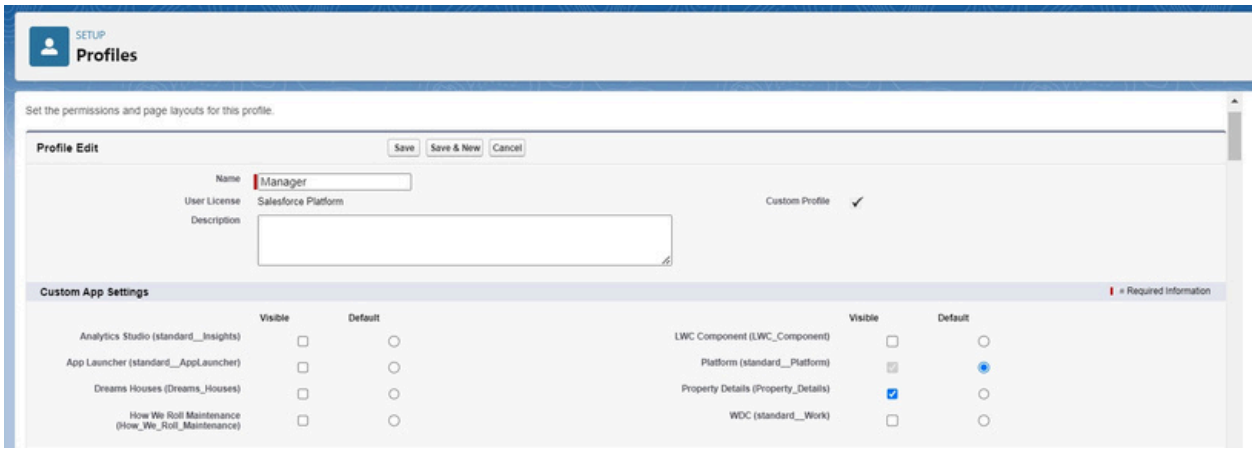


4) Uncheck all the Custom Object Permissions and check read and view all in "Property"

● Manager:-

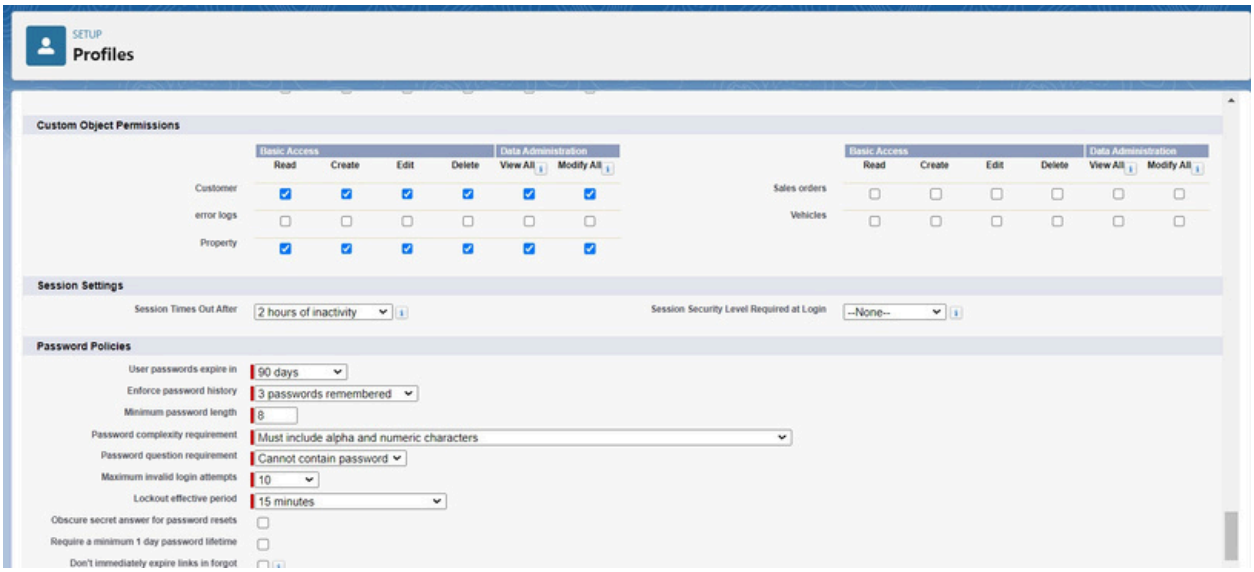
1) From Setup→ Go to Profiles and Clone Salesforce Platform User and Name it “Manager”..

2) Uncheck all the Custom Objects and Check only Property Details From Custom App Settings.



3) Also Remove all the Standard Object Permissions.

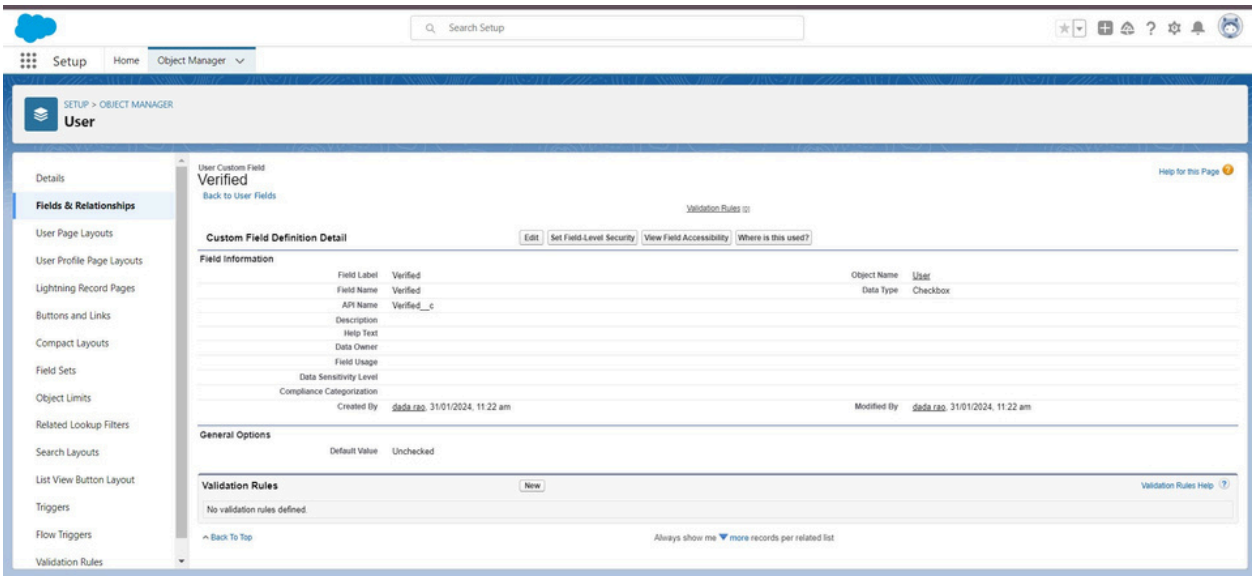
4) Uncheck all the Custom Object Permissions and check only“modify all ”from “Property” and “Customer”



Milestone 7 : - Create a CheckBox field on user

1) Setup → Object Manager → Search for User → Fields and Relationships

2) Create new Field Named as“Verified” as Datatype “CheckBox”



Milestone 8 : - Create Users

Create three different users with three different Roles and profiles as we have mentioned above.

User 1 : -

1) GotoSetup→Administration→Users→NewUser

2) LastName -Executive

3) Role-SalesExecutive

4) License- Salesforce

5) Profile-SystemAdministrator

6) Save

User 2 : -

1) GotoSetup→Administration→Users→NewUser

2) LastName -Manager

3) Role-SalesManager

4) License- SalesforcePlatform

5) Profile-Manager

6) Save

User 3 : -

1) GotoSetup→Administration→Users→NewUser

2) LastName -Customer

3) Role-Customer

4) License- SalesforcePlatform

5) Profile-Customer

6) MakeSuretheverifiedcheckboxis“Unchecked”

7) Save

User 4 : -

1) GotoSetup→Administration→Users→NewUser

2) LastName -Customer2

3) Role-Customer

4) License- SalesforcePlatform

5) Profile-Customer

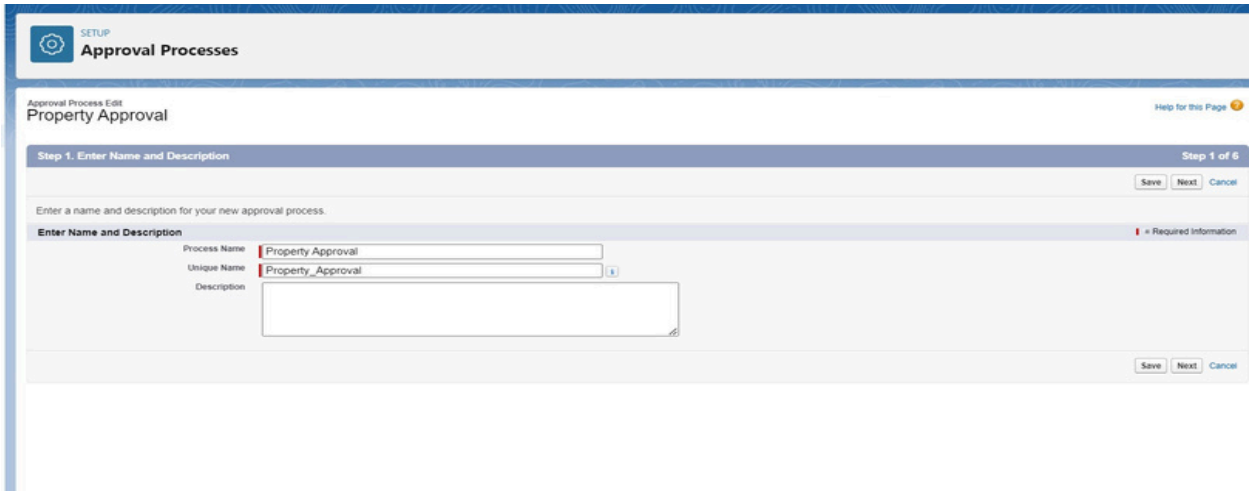
6) MakeSuretheverifiedcheckboxis“checked”

7) Save

Milestone 9 :- Create an Approval Process for Property Object

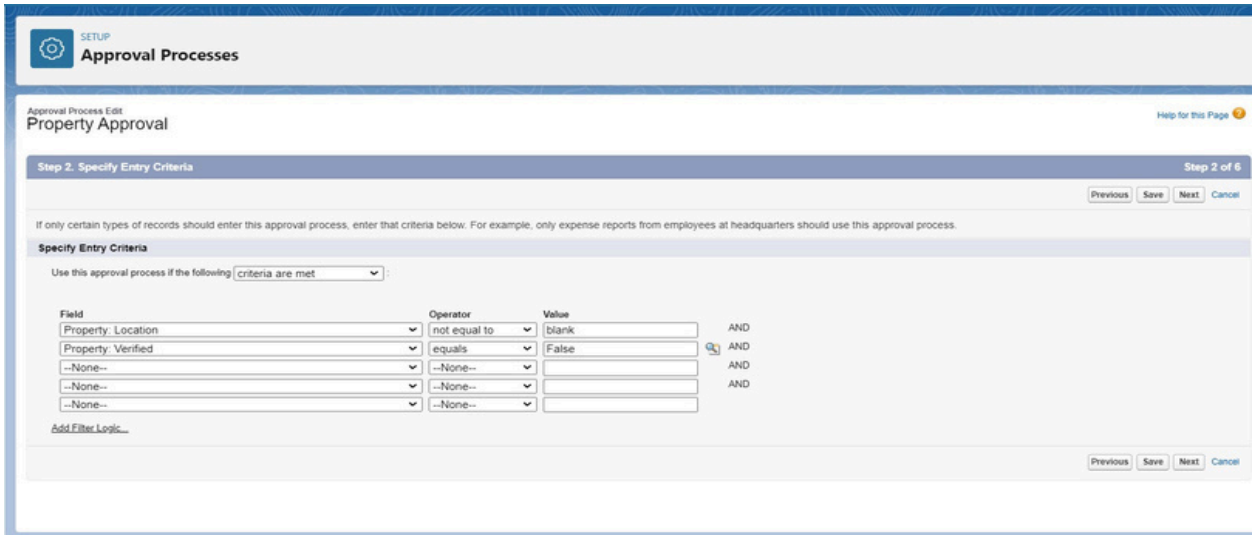
1) From Setup → Process Automation → Approval Process

2) Process Name-Property Approval



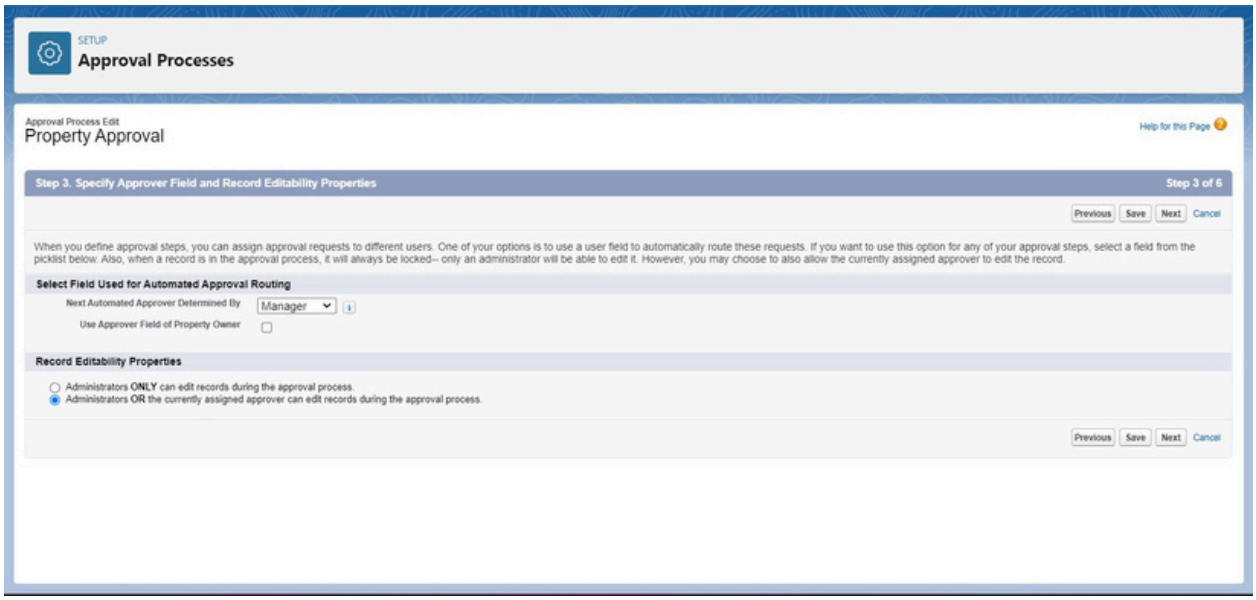
3) Give 2 criteria→

a) Location is not equaltoblank, b)
Verified Equals false.

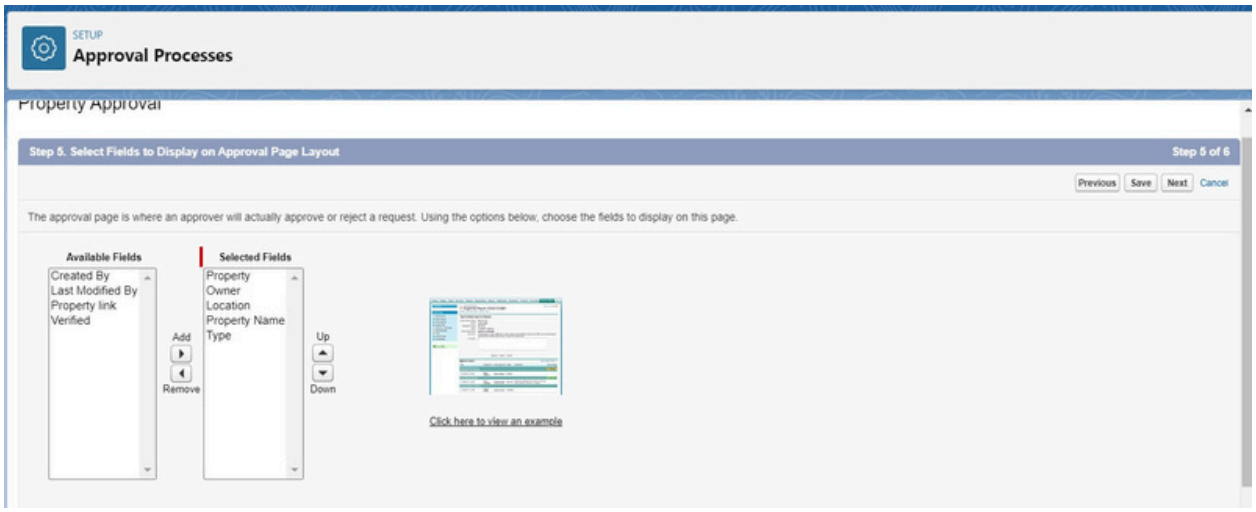


4) Click next and " Next Automated Approver Determined By" → Select Manager

5) From Record Editability Properties → Click on Administrators OR the currently assigned approver can edit records during the approval process.



6) From Step 5. Select Fields to Display on Approval Page Layout select Property, Owner, Location, Type.

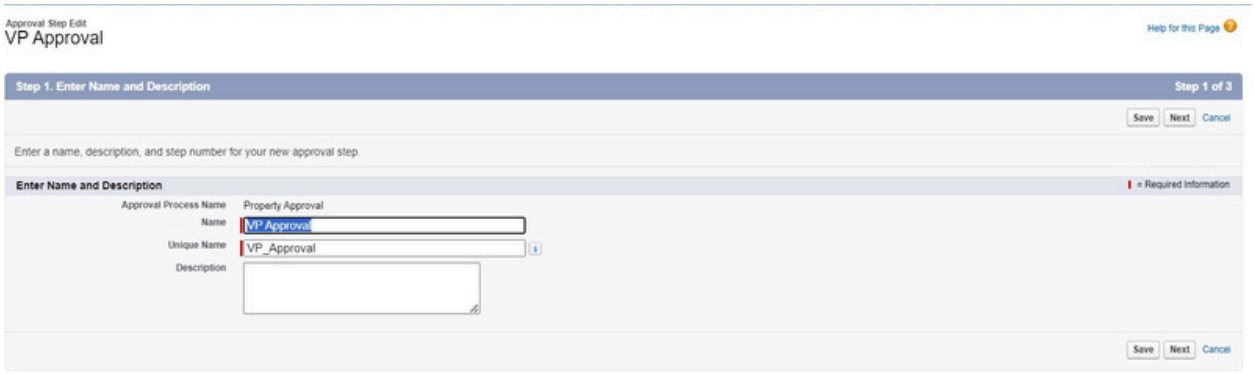


7) Click Next and Select the initial Submiters →

a) Owner → Property Owner
b) Roles→SalesManager

8) Save.

9) Add an approval step name “Executive Approval ”

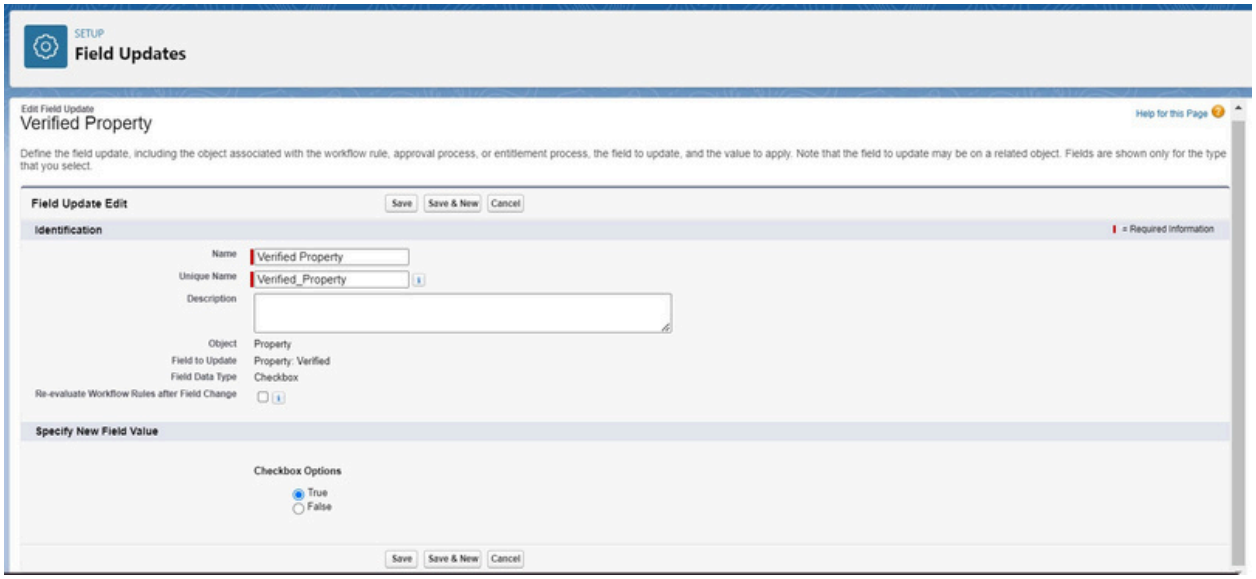


10) specify the Criteria → All record should enter

11) click next and select the Approver as “ Sales Executive “ and “Save”

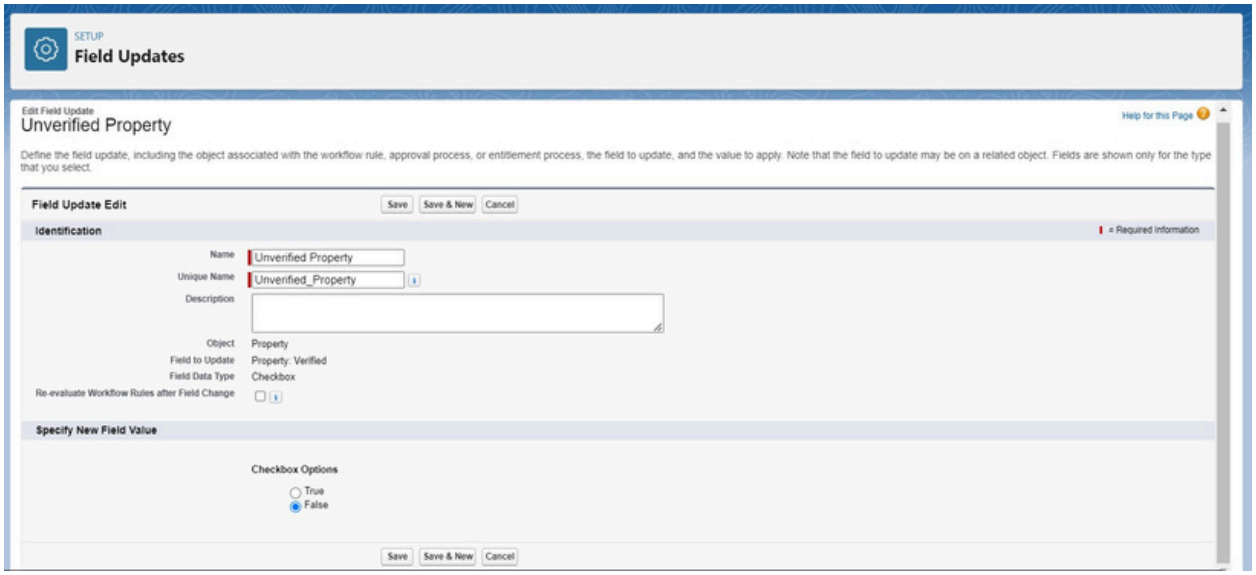
12) Add One field Update as “Verified Property”

a) SelectObject→Property
b) FieldtoUpdate→Verified
c) FieldDataType→CheckBox
d) SelectCheckBoxOptionas“True”
e) Save.



13) Add One field Update as “UnVerified Property”

a) SelectObject→Property
b) FieldtoUpdate→Verified
c) FieldDataType→CheckBox
d) SelectCheckBoxOptionas“False”
e) Save.



14) Activate the Approval Process.

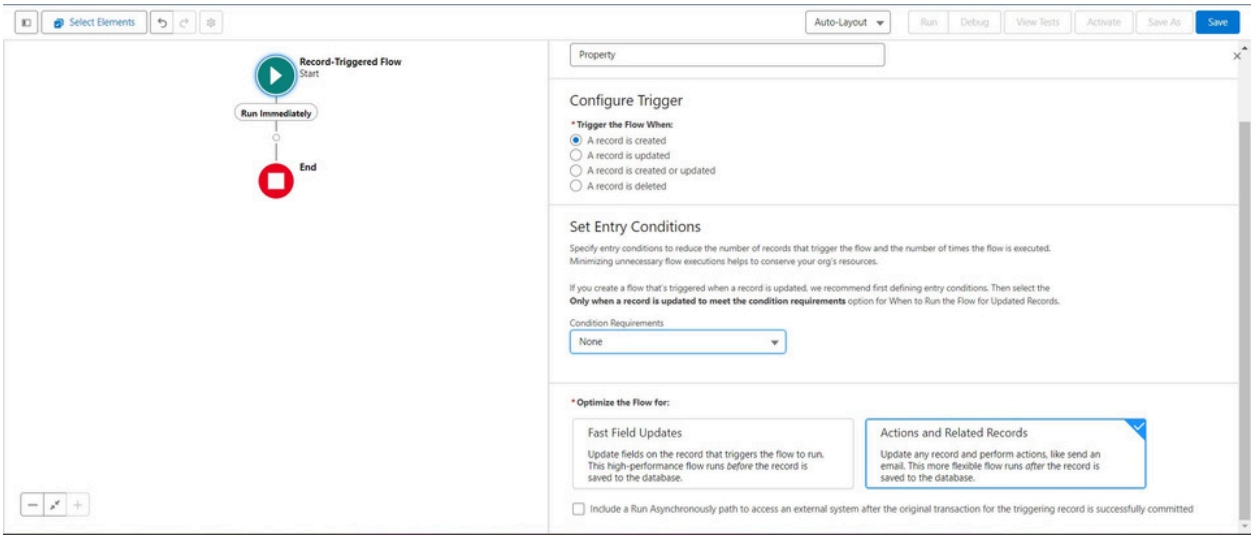
Milestone 10 : - Create a Record trigger flow to submit the Approval Process Automatically.

1) From Setup→Search for Flows→Click On New and Select“Record Trigger Flow”.

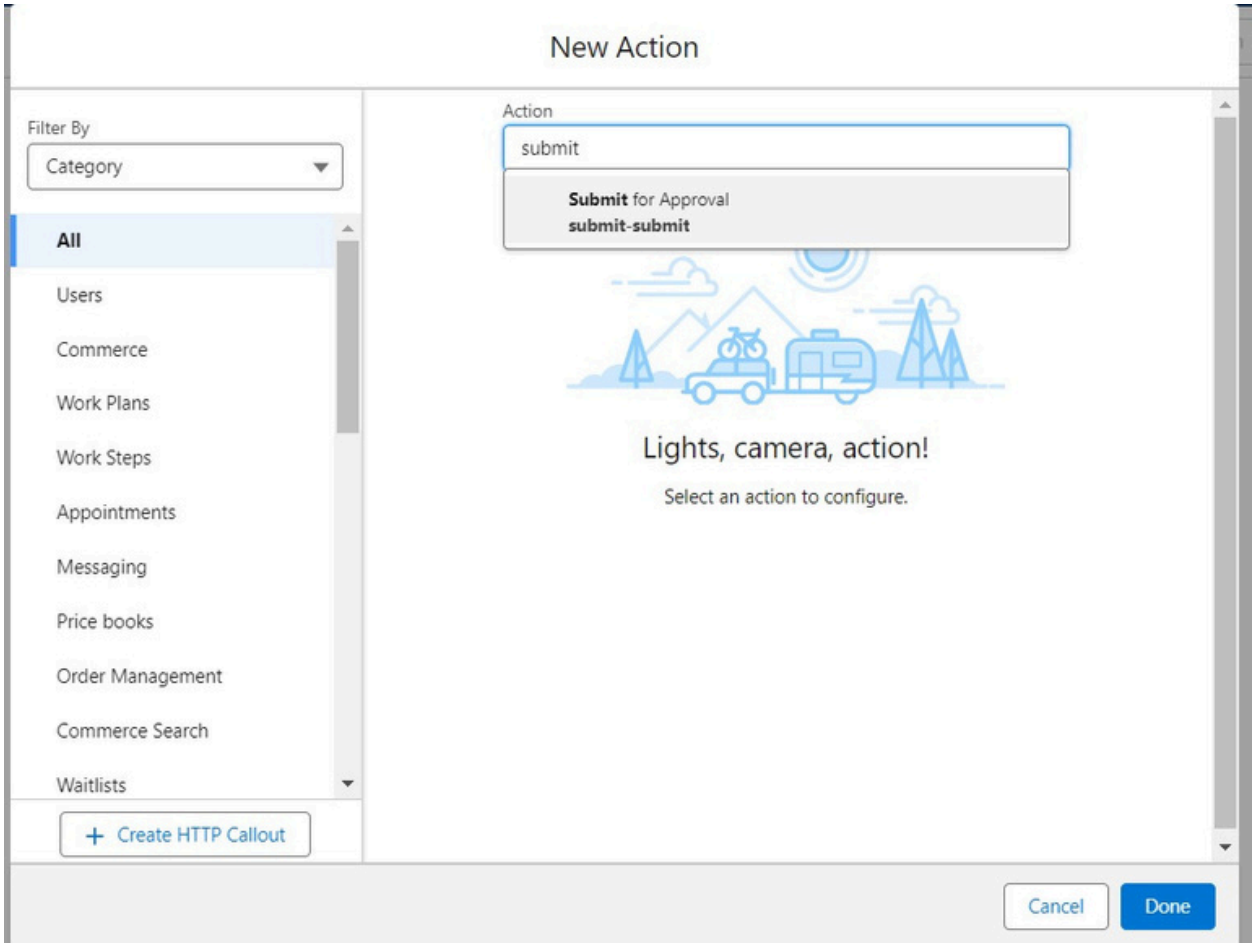
2) Select Object→Property

3) Select“Trigger the flow when”→“A record is created”

4) Set Entry Conditions→“None”



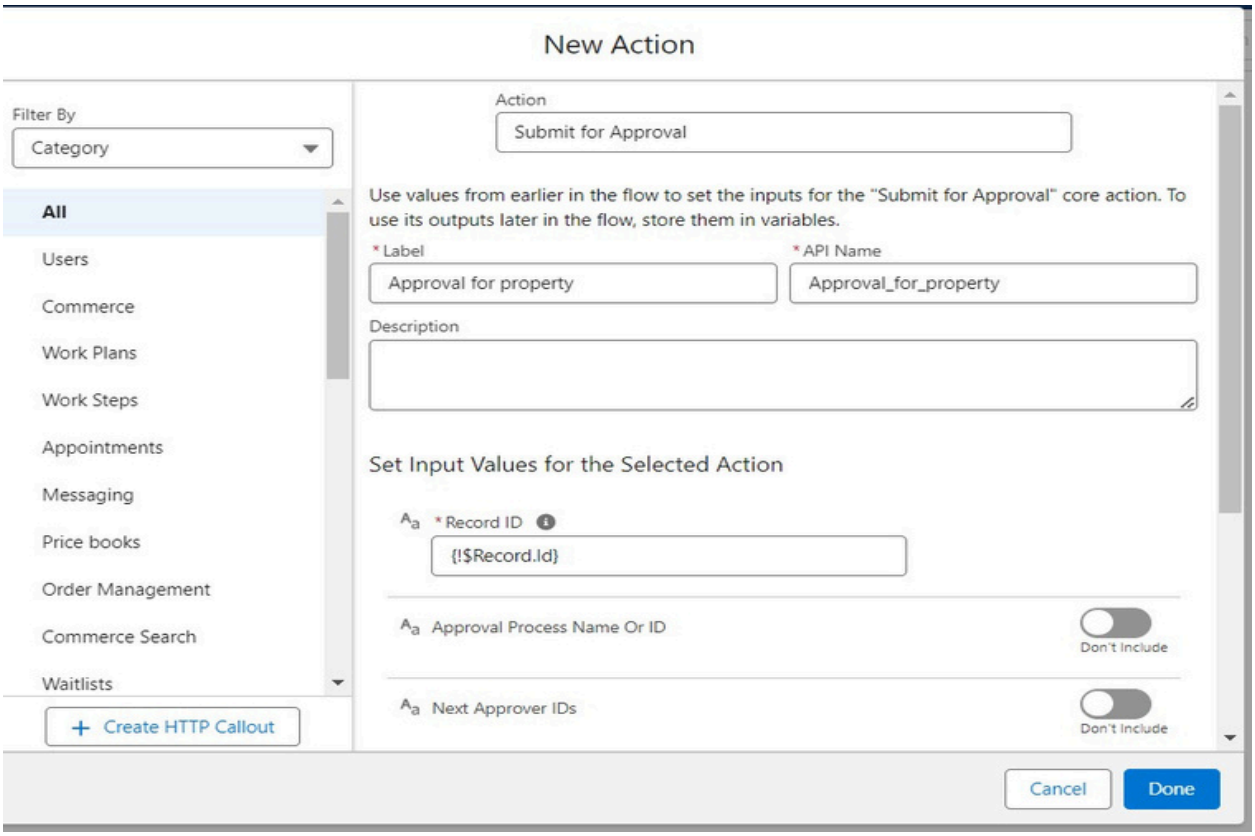
5) Add a“Action”→“Submit for Approval”



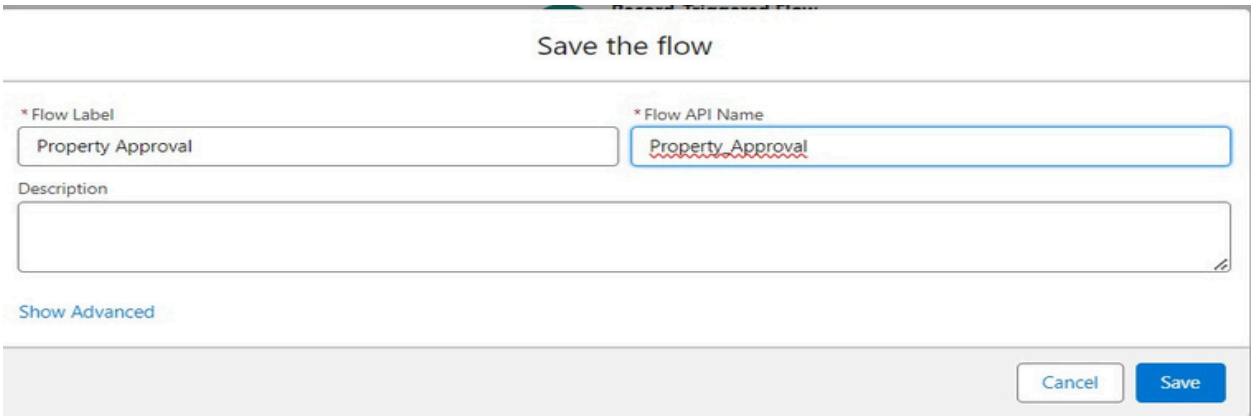
6) Give Label→Approval for property

7) RecordId→{!$Record.Id}

8) Done



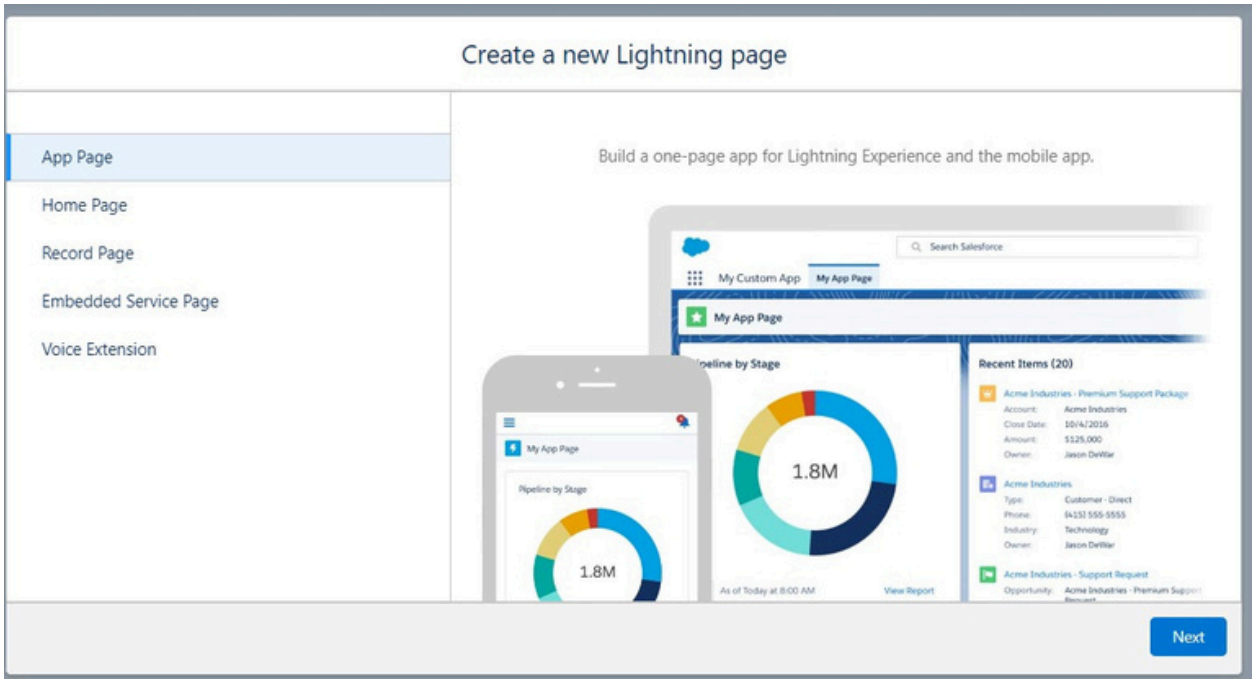
9) Save the Flow and Give label as→“PropertyApproval”and“Activate”



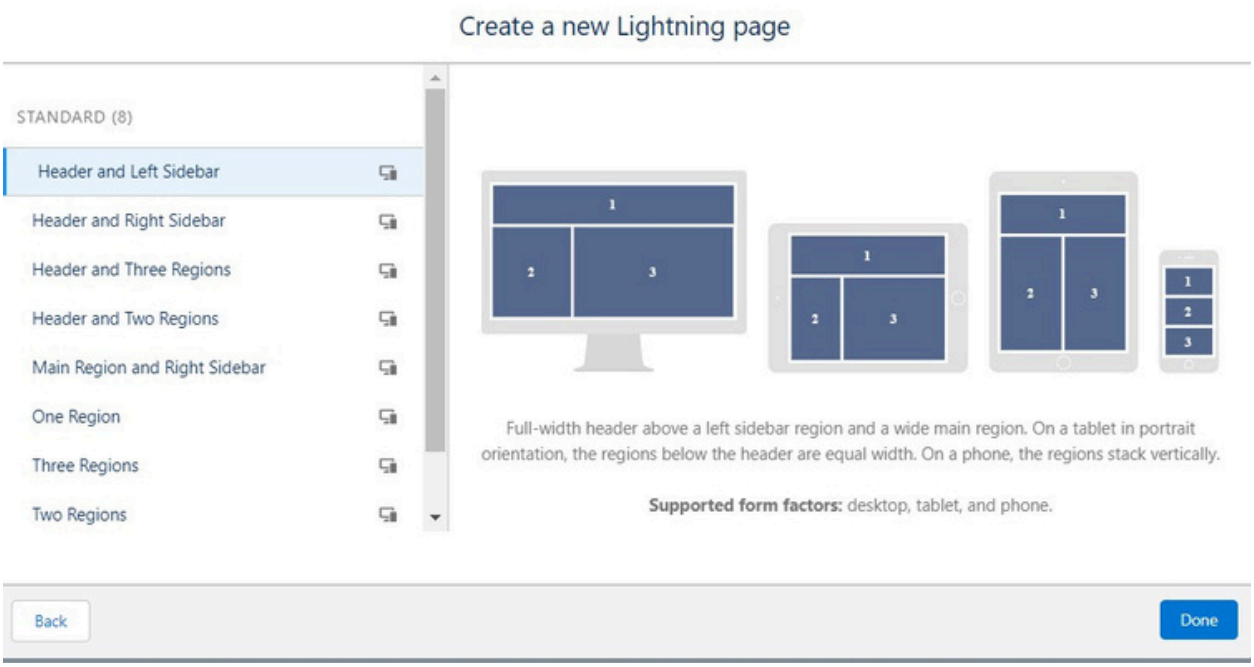
Milestone 11 :- Create an App Page

- Create an App Page on the Property details Object named as “Search Your Property”

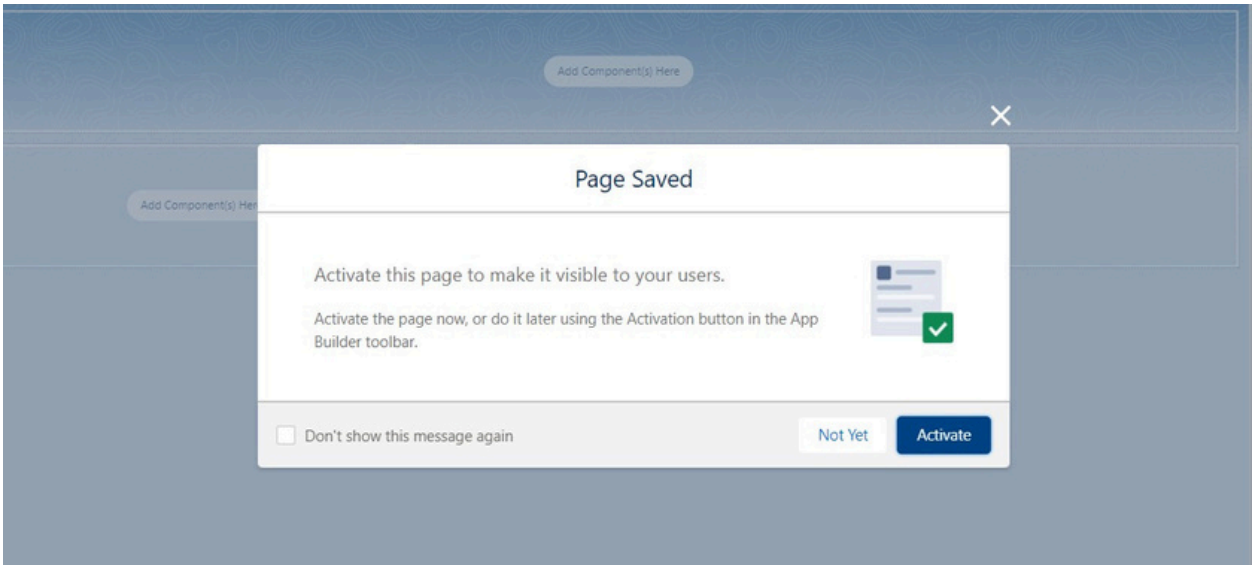
1) From Setup → Go to Lightning App Builder → Click on New → Select App Page and Click on Next.



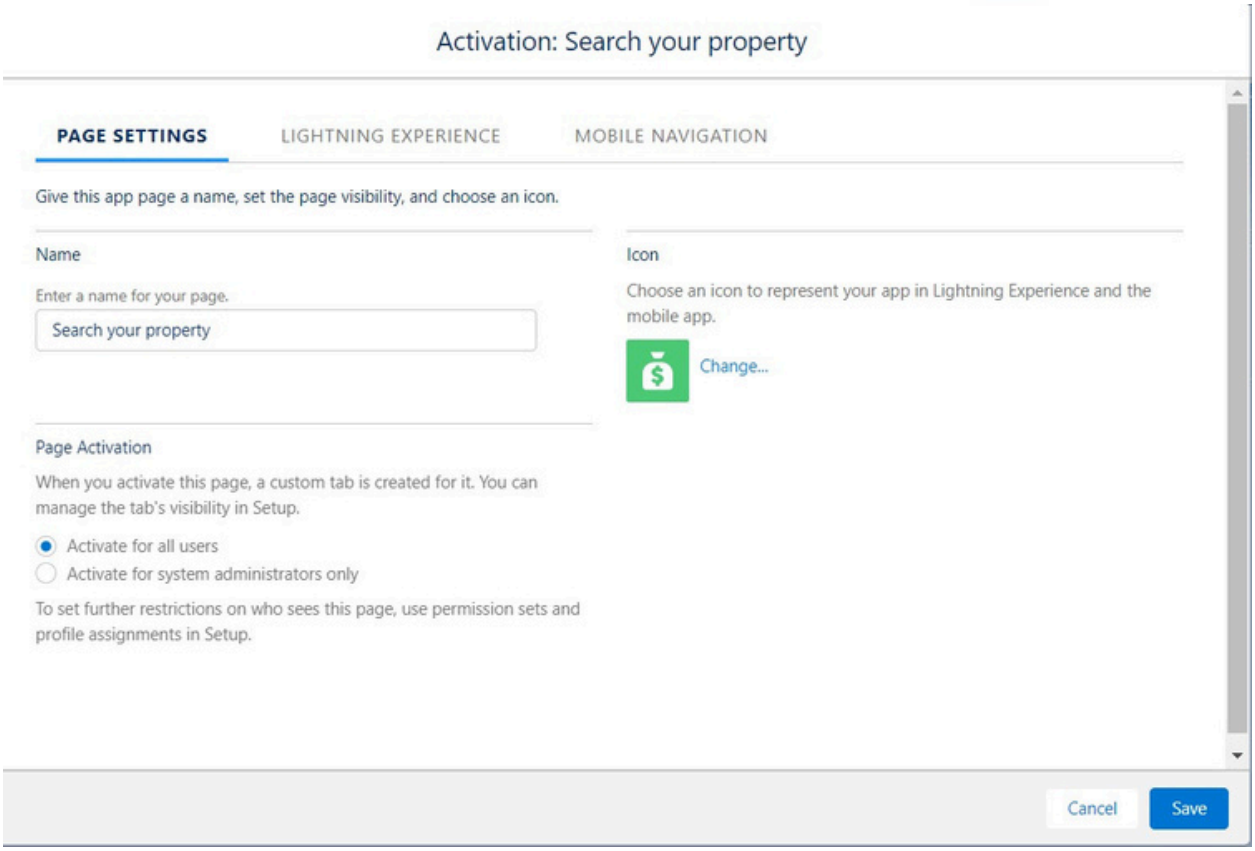
2) Give Label as “Search your Property” click “Next”.
3) Click “header and Left Side bar” and Click on “Done”



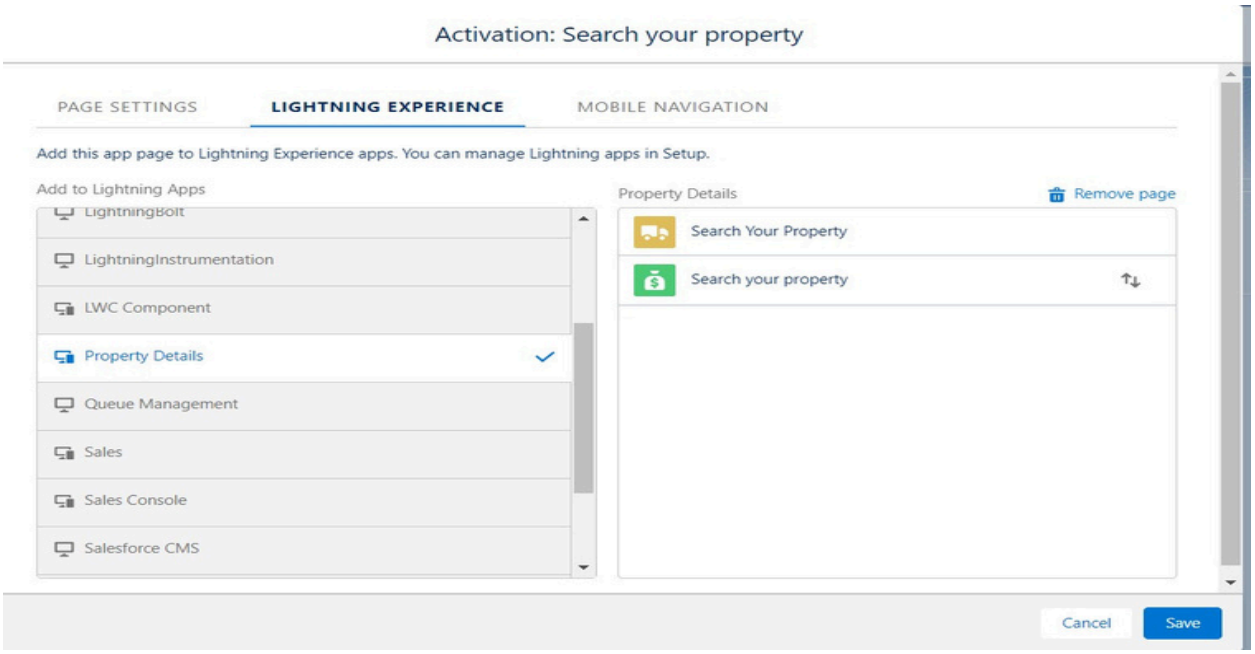
4) Click on “Save”and then click on “Activate”.



5) From Page Setting select page activation as “Activate for all Users”.



6) From Lightning Experience Click on “Property Details” and click on Add Page“.



7) Then Click on “Save”

TESTING AND VALIDATION

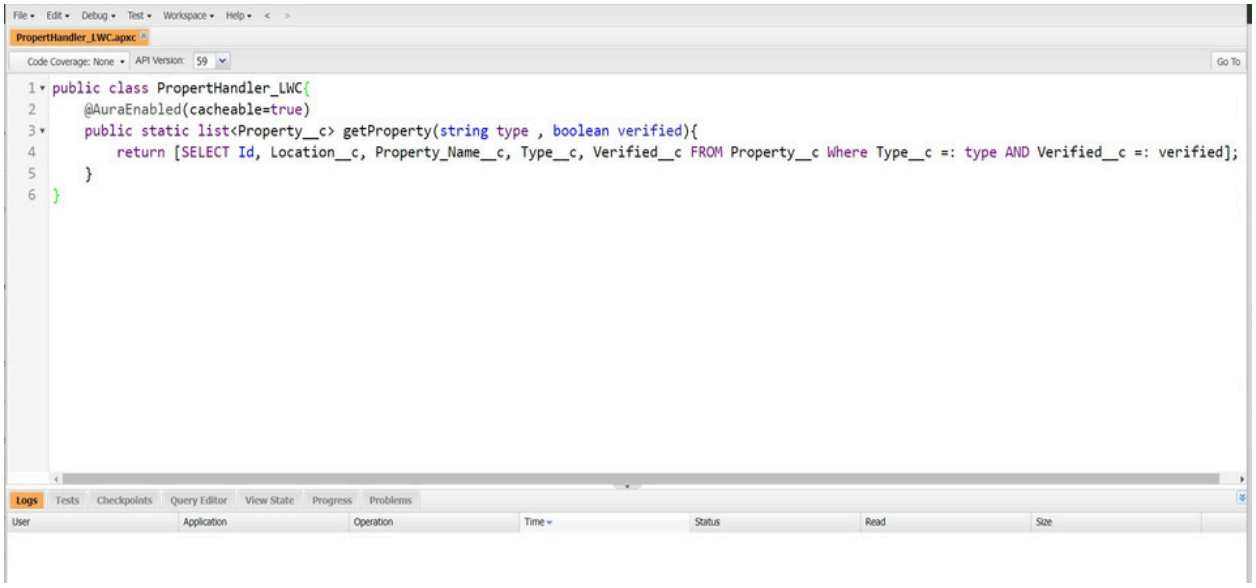
Milestone 12 :- Create a LWC Component

- Create an Lwc Component for the customers so that only verified customers can access the verified properties and non Verified customers can access non verified properties, and deploy it on “Search your Property Page”

1) Create an Apex Class and make it aura enabled and name it“PropertHandler_LWC”

Code: -

```
public class PropertHandler_LWC{
    @AuraEnabled(cacheable=true)
    public static list<Property__c> getProperty(string type , boolean verified){
        return [SELECT Id, Location__c, Property_Name__c, Type__c, Verified__c FROM
Property__c Where Type__c =: type AND Verified__c =: verified];

    }
}
```



2) Create a Lightning Web Component in your VsCode, and (ctrl+shift+P) and click on authorize an org.

3) Enter your login id and password to authorize your org.

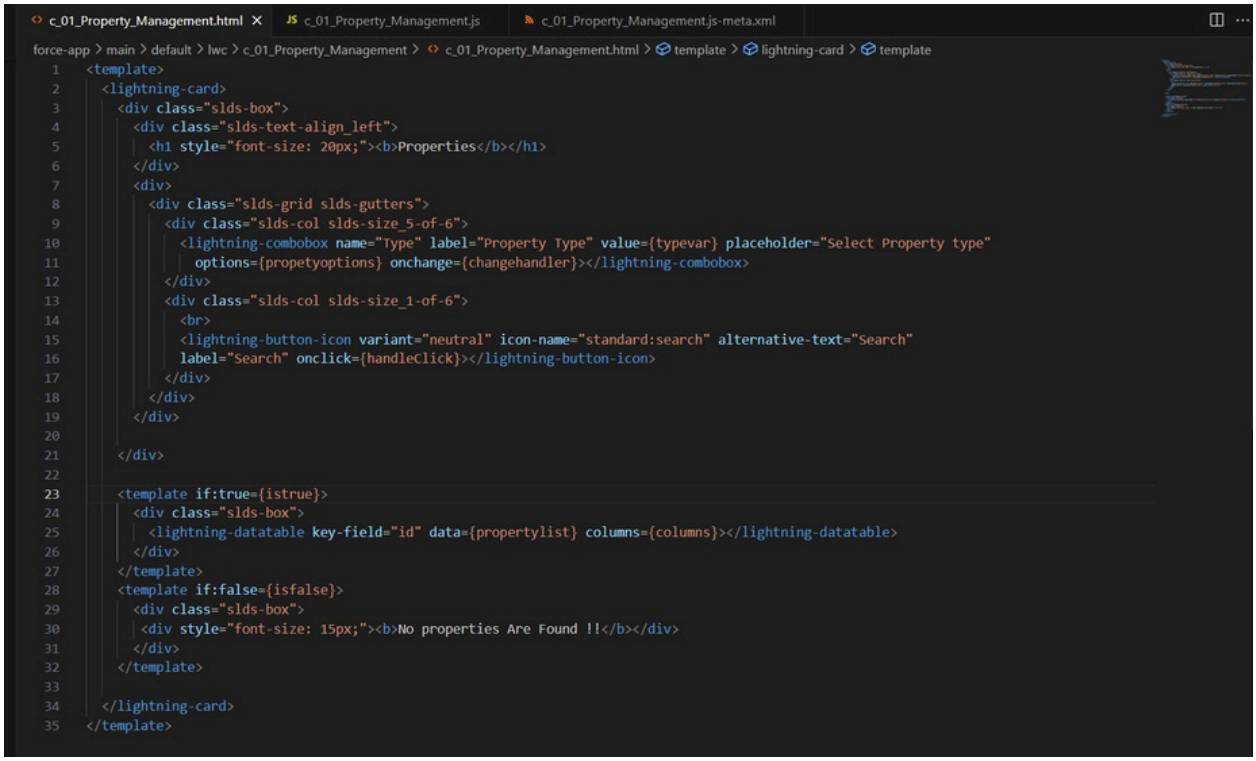
4) Now (ctrl+shift+P)→Create a Lightning Web Component and Name It Any thing you want to. (Example -)

5) In your Html File Write this code:-

Code :-

```
<template>
  <lightning-card>
    <div class="slds-box">
      <div class="slds-text-align_left">
        <h1 style="font-size: 20px;"><b>Properties</b></h1>
      </div>
      <div>
        <div class="slds-grid slds-gutters">
          <div class="slds-col slds-size_5-of-6">
            <lightning-combobox name="Type" label="Property Type" value={typevar}
placeholder="Select Property type"
              options={propetyoptions} onchange={changehandler}></lightning-combobox>
          </div>
          <div class="slds-col slds-size_1-of-6">
            <br>
            <lightning-button-icon variant="neutral" icon-name="standard:search"
alternative-text="Search"
              label="Search" onclick={handleClick}></lightning-button-icon>
          </div>
        </div>
      </div>

    </div>

    <template if:true={istrue}>
      <div class="slds-box">
        <lightning-datatable key-field="id" data={propertylist}
columns={columns}></lightning-datatable>
      </div>
    </template>
    <template if:false={isfalse}>
```

```
    <div class="slds-box">
     <div style="font-size: 15px;"><b>No properties Are Found !!</b></div>
    </div>
   </template>

  </lightning-card>
</template>
```



6) In Your Js File Write this code : -

Code :-

```
import { LightningElement, api, track, wire } from 'lwc';
import getProperty from "@salesforce/apex/PropertHandler_LWC.getProperty"
import { getRecord } from 'lightning/uiRecordApi';
import USER_ID from '@salesforce/user/Id';
export default class C_01_Property_Management extends LightningElement {
    @api recordId
    userId = USER_ID;
```

```
verifiedvar          typevar
isfalse = true; istrue =
false; @track propertylist
= []; columns = [


   { label: 'Property Name', fieldName: 'Property_Name__c' },
   { label: 'Property Type', fieldName: 'Type__c' },
   { label: 'Property Location', fieldName: 'Location__c' },
   { label: "Property link", fieldName: "Property_link__c" }
]
propetyoptions = [
   { label: "Commercial", value: "Commercial" },
   { label: "Residential", value: "Residential" },
   { label: "rental", value: "rental" }

]
@wire(getRecord, { recordId: "$userId", fields: ['User.Verified__c'] })
recordFunction({ data, error }) {
   if (data) {
      console.log(data)
      console.log("This is the User Id ---> "+this.userId);
      this.verifiedvar = data.fields.Verified__c.value;
   } else {
      console.error(error)
      console.log('this is error')
   }
}

changehandler(event) {
   console.log(event.target.value);
   this.typevar = event.target.value;
}
handleClick() {

   getProperty({ type: this.typevar, verified: this.verifiedvar })
      .then((result) => {
         this.isfalse = true;
         console.log(result)
         console.log('This is the User id ---> ' + this.userId);
```

```
            console.log('This is the verified values ---> ' + this.verifiedvar);
            if (result != null && result.length != 0) {
                this.istrue = true;
                this.propertylist = result;
                console.log(this.verifiedvar);
                console.log(this.typevar)
            } else {
                this.isfalse = false;
                this.istrue = false;
            }

        })
        .catch((error) => {
            console.log(error)
        })
    }


}
```

c_01_Property_Management.html | c_01_Property_Management.js | c_01_Property_Management.js-meta.xml

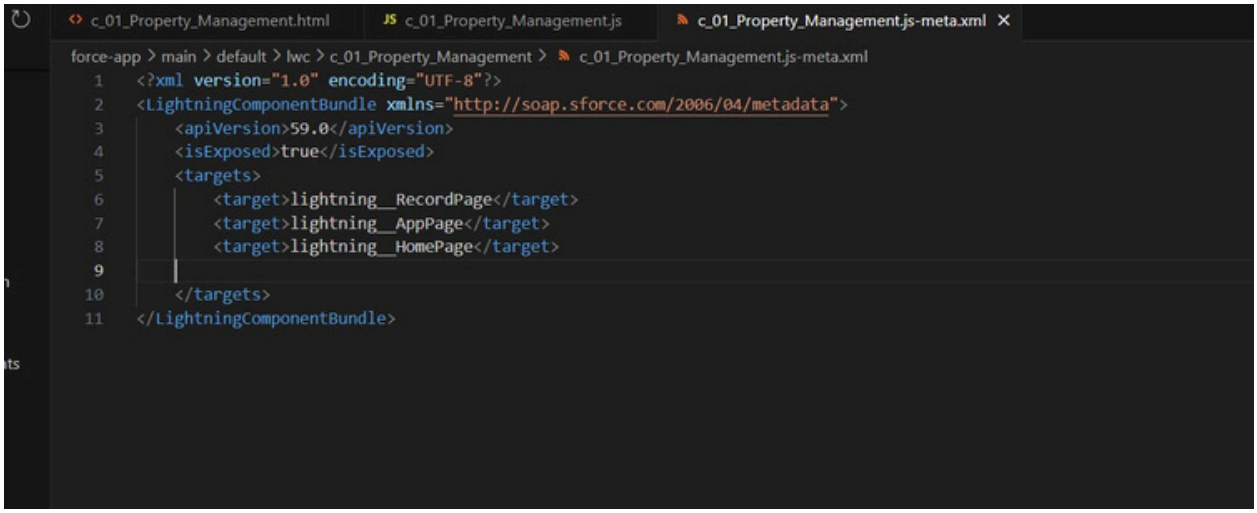
force-app > main > default > lwc > c_01_Property_Management > c_01_Property_Management.js > C_01_Property_Management > propetyoptions

```
import { LightningElement, api, track, wire } from 'lwc';
import getProperty from "@salesforce/apex/PropertHandler_LWC.getProperty"
import { getRecord } from 'lightning/uiRecordApi';
import USER_ID from '@salesforce/user/Id';
export default class C_01_Property_Management extends LightningElement {
    @api recordId
    userId = USER_ID;
    verifiedvar
    typevar
    isfalse = true;
    istrue = false;
    @track propertylist = [];
    columns = [
        { label: 'Property Name', fieldName: 'Property_Name__c' },
        { label: 'Property Type', fieldName: 'Type__c' },
        { label: 'Property Location', fieldName: 'Location__c' },
        { label: "Property link", fieldName: "Property_link__c" }
    ]
    propetyoptions = [
        { label: "Commercial", value: "Commercial" },
        { label: "Residential", value: "Residential" },
        { label: "rental", value: "rental" }

    ]
    @wire(getRecord, { recordId: "$userId", fields: ['User.Verified__c'] })
    recordFunction({ data, error }) {
        if (data) {
            console.log(data)
            console.log("This is the User Id ---> "+this.userId);
            this.verifiedvar = data.fields.Verified__c.value;
        } else {
            console.error(error)
            console.log('this is error')
        }
    }

    changehandler(event) {
        console.log(event.target.value);
        this.typevar = event.target.value;
    }
    handleClick() {

        getProperty({ type: this.typevar, verified: this.verifiedvar })
            .then((result) => {
                this.isfalse = true;
                console.log(result)
                console.log('This is the User id ---> ' + this.userId);
                console.log('This is the verified values ---> ' + this.verifiedvar);
                if (result != null && result.length != 0) {
                    this.istrue = true;
                    this.propertylist = result;
                    console.log(this.verifiedvar);
                    console.log(this.typevar)
                } else {
                    this.isfalse = false;
                    this.istrue = false;
                }

            })
            .catch((error) => {
                console.log(error)
            })
    }


}
```

7) In Your metafile give your targets to deploy the component.

Code :-

```
<?xml version="1.0" encoding="UTF-8"?>
<LightningComponentBundle xmlns="http://soap.sforce.com/2006/04/metadata">
   <apiVersion>59.0</apiVersion>
   <isExposed>true</isExposed>
   <targets>
      <target>lightning__RecordPage</target>
      <target>lightning__AppPage</target>
      <target>lightning__HomePage</target>
         </targets>
</LightningComponentBundle>
```

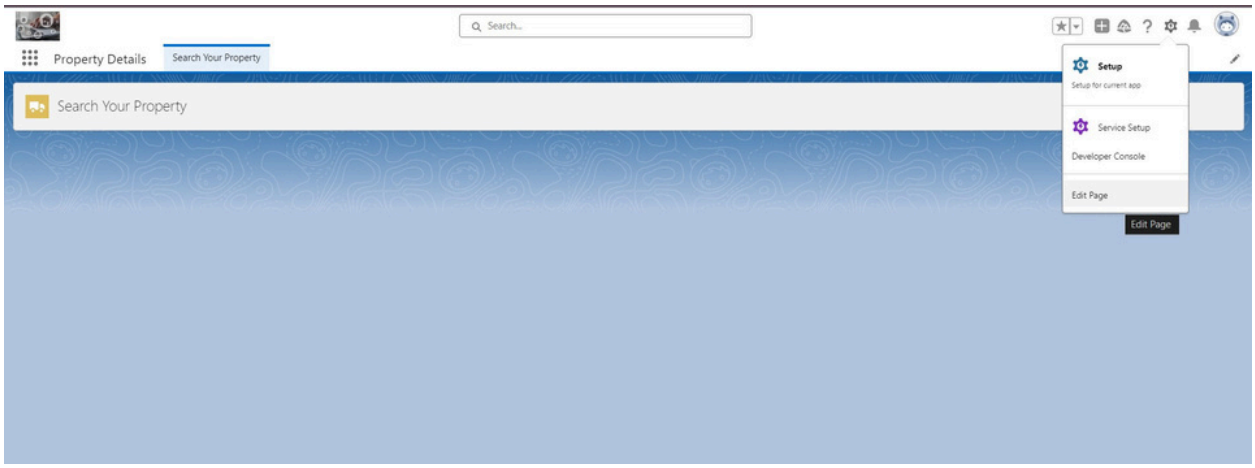


8) AfterSavingallthethreeCodes,RightClickanddeploythiscomponenttotheorg.

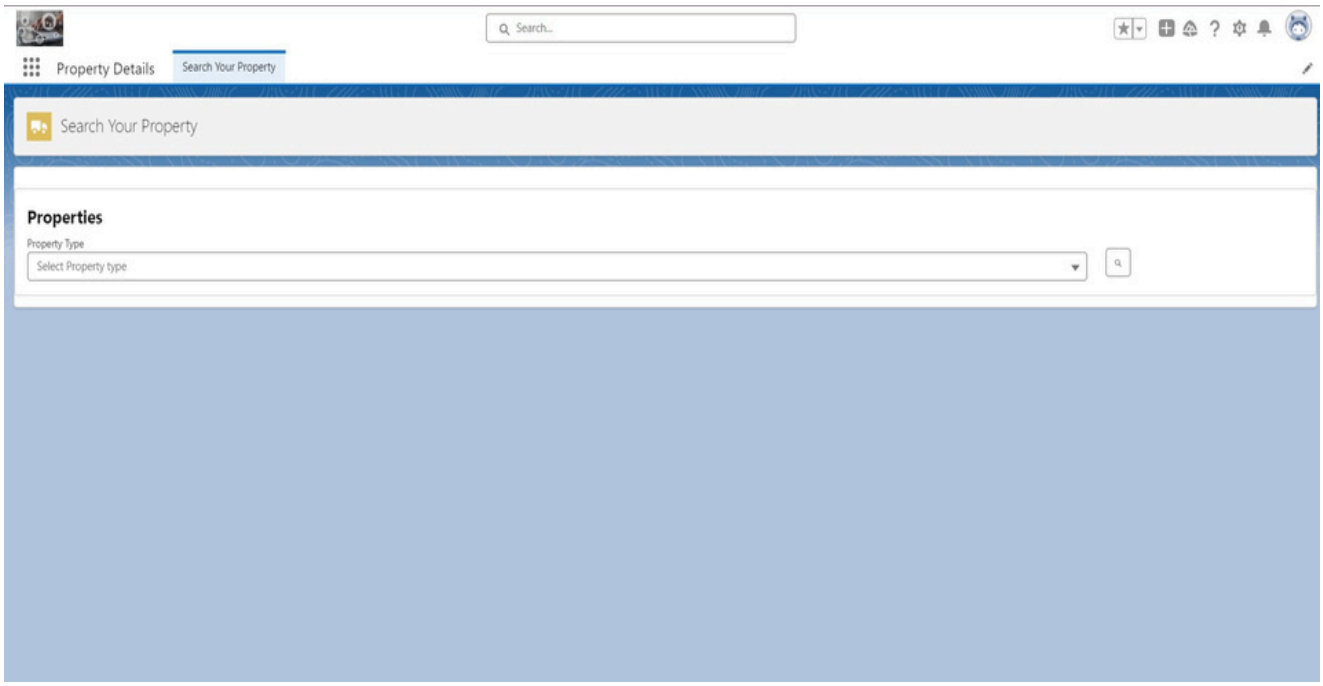
Milestone 13 : - Drag this Component to your App Page

1) From Setup → Go to App Launcher → Search for Property Details

2) On this Page click on gear icon and click on Edit Page



3) Drag the Component to your App Page and Save the Page.



Milestone 14 : - Give Access of Apex Classes to Profiles

1) From Setup→Search For Apex Classes→Click on“Security”behind “Property Handler__LWC”.

2) From Profiles Add “Manager” and “Customer” and “Save”.

Conclusion:

A CRM application for managing clients and property-related requirements streamlines operations, enhances client communication, and improves property tracking.

By centralizing data, automating lead management, and offering insightful reporting, it boosts efficiency and strengthens client relationships, ultimately driving better business outcomes in real estate and property management.