Project Name: Sales Automobile Using Salesforce CRM

Team ID : LTVIP2024TMID11576

Team Size : 5

Team Leader : V SHILPA

Team member : V TEJASREE

Team member : R LIKHITHA

Team member : RAMKUPPAM SURENDRA

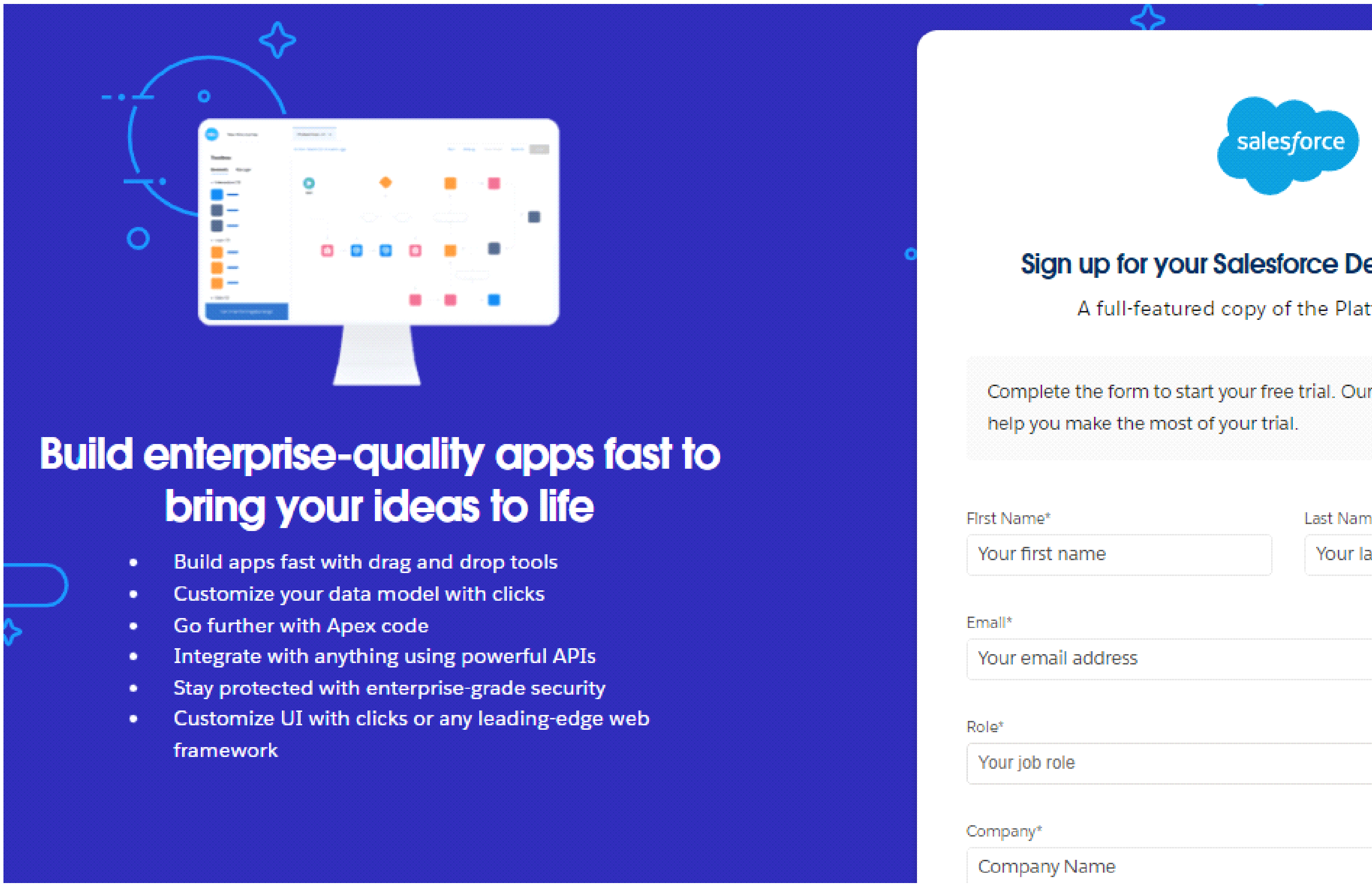
Team member : THAMBA NANDINI

Salesforce

Creating Developer Account

Creating a developer org in salesforce.

- Go to https://developer.salesforce.com/signup
- On the sign up form, enter the following details :

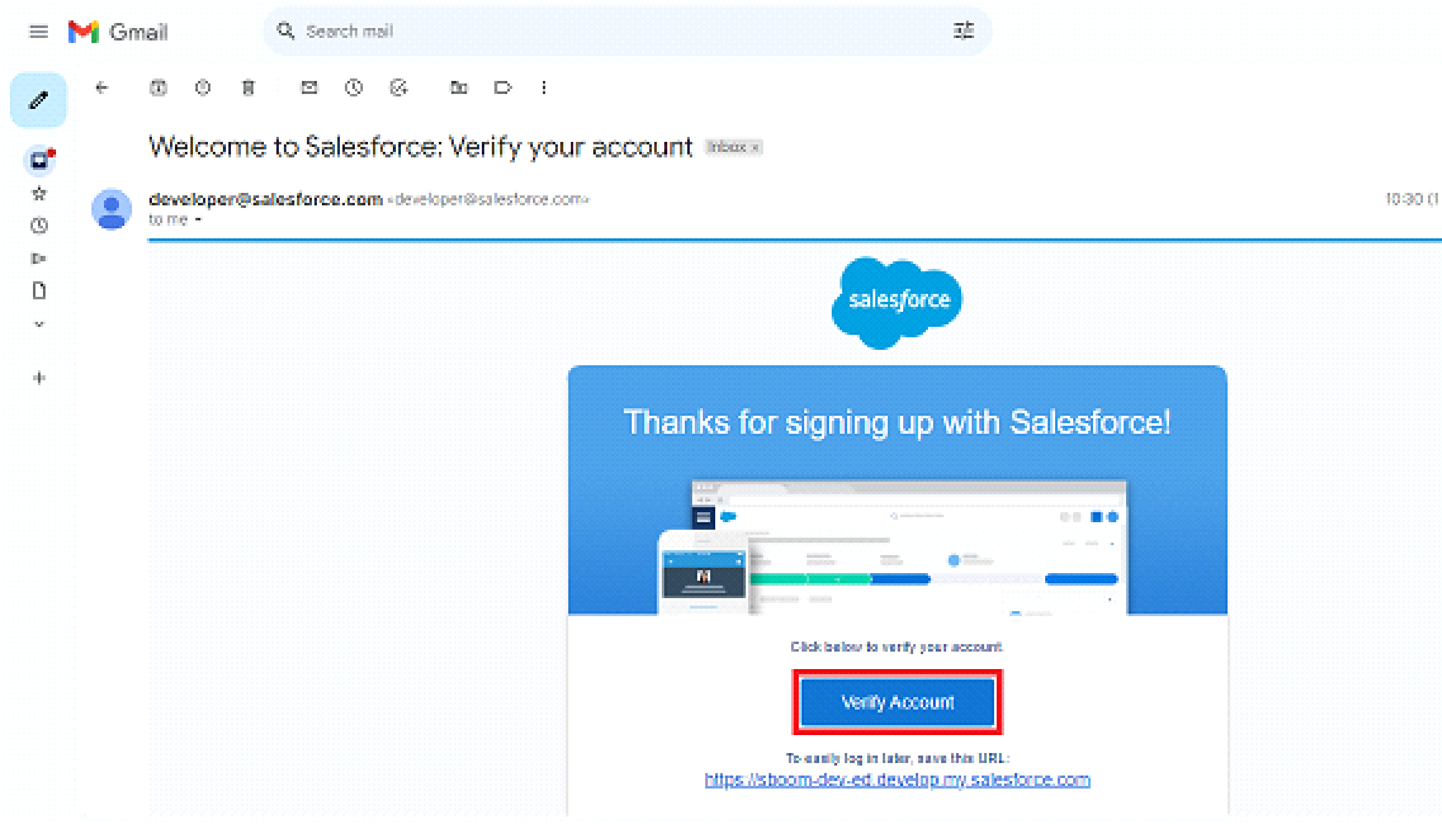


- First name & Last name
- Email
- Role : Developer
- Company : College Name
- County : India
- Postal Code : pin code
- Username : should be a combination of your name and company

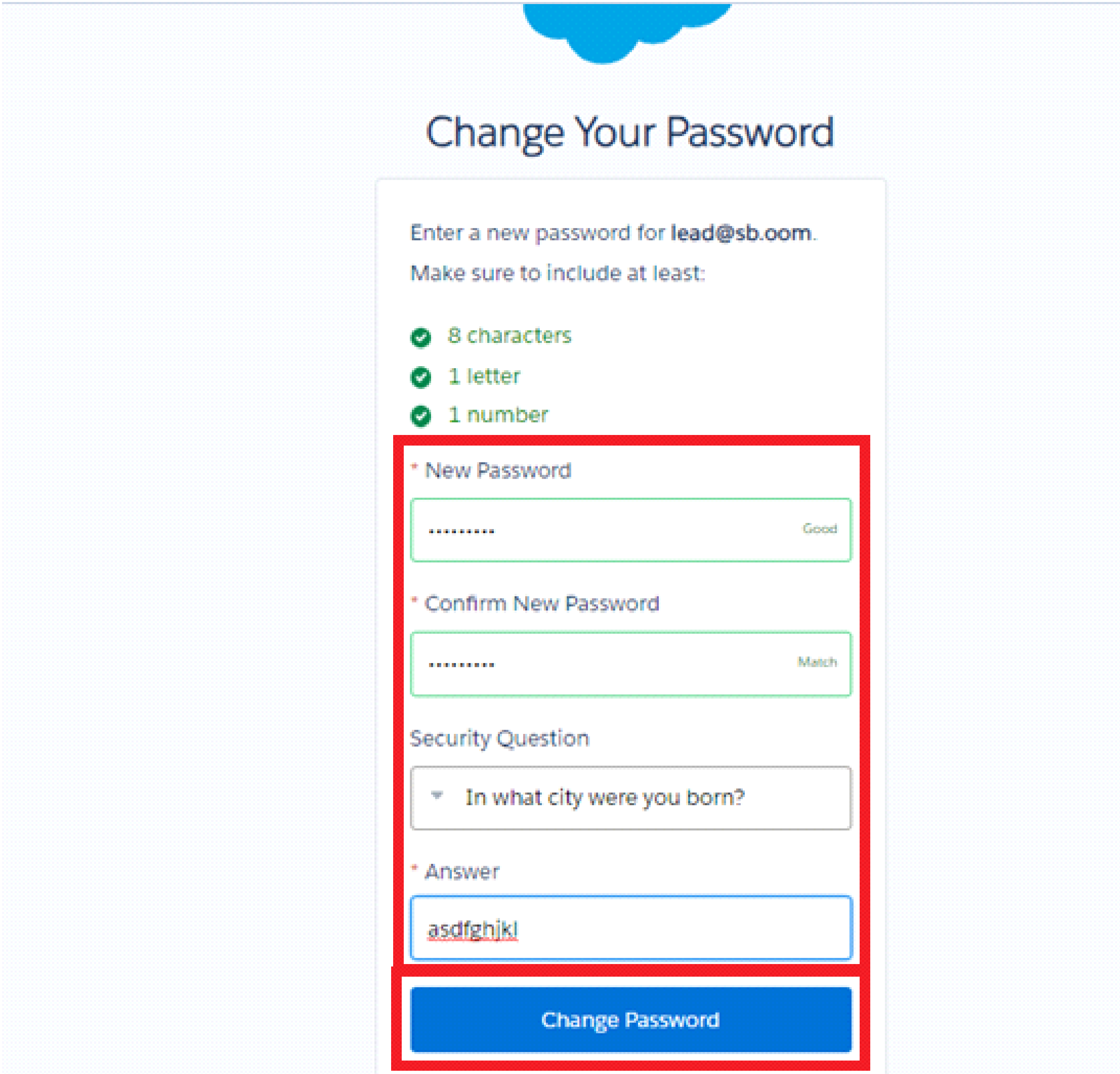
This need not be an actual email id, you can give anything in the format : username@organization.com
Click on sign me up after filling these.

Account Activation

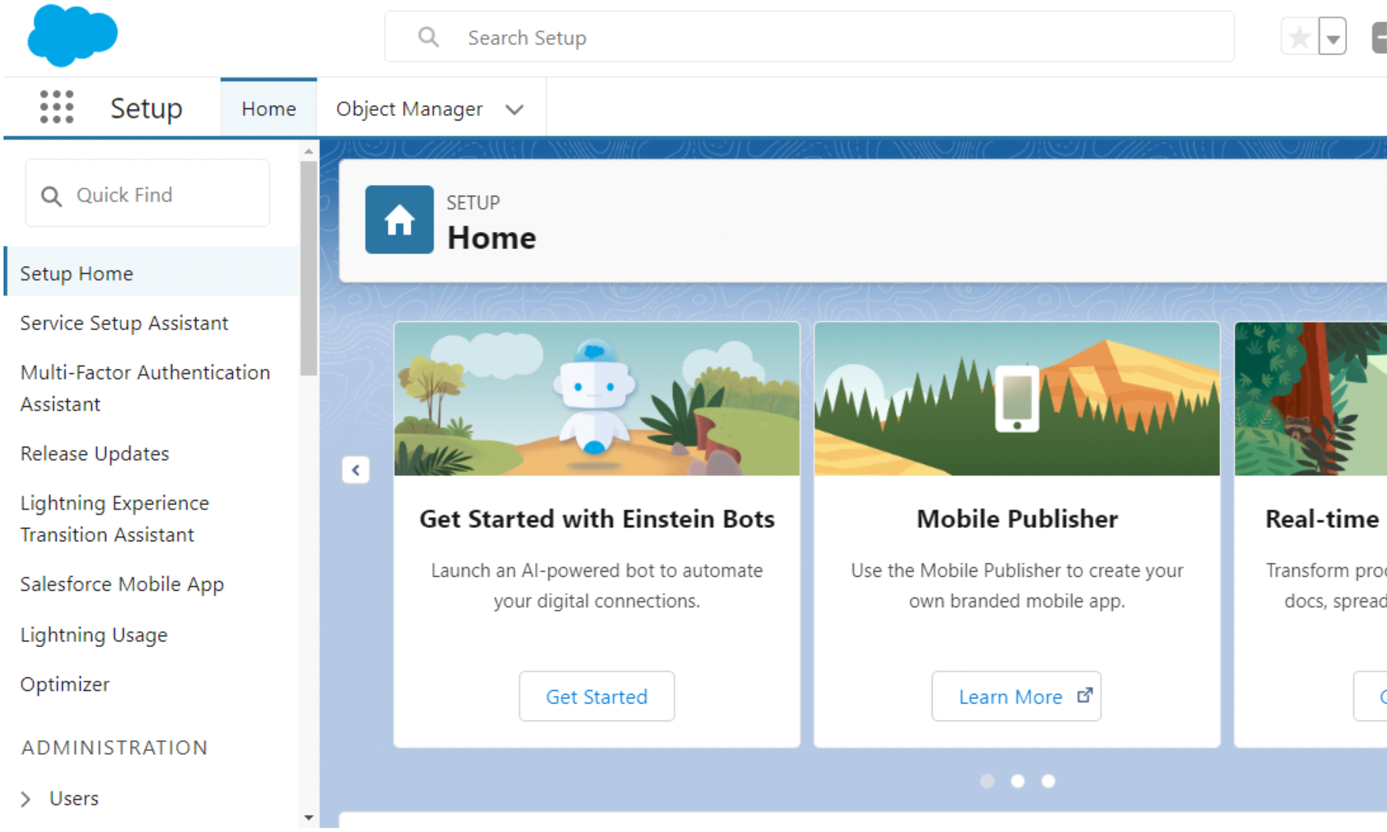
- Go to the inbox of the email that you used while signing up. Click on the verify account to activate your account. The email may take 5-10mins.



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



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


Search Setup
Setup
Home
Object Manager
Quick Find
SETUP
Home
Setup Home
Service Setup Assistant
Multi-Factor Authentication Assistant
Release Updates
Lightning Experience Transition Assistant
Salesforce Mobile App
Lightning Usage
Optimizer
ADMINISTRATION
Users
Get Started with Einstein Bots
Launch an AI-powered bot to automate your digital connections.
Get Started
Mobile Publisher
Use the Mobile Publisher to create your own branded mobile app.
Learn More
Real-time

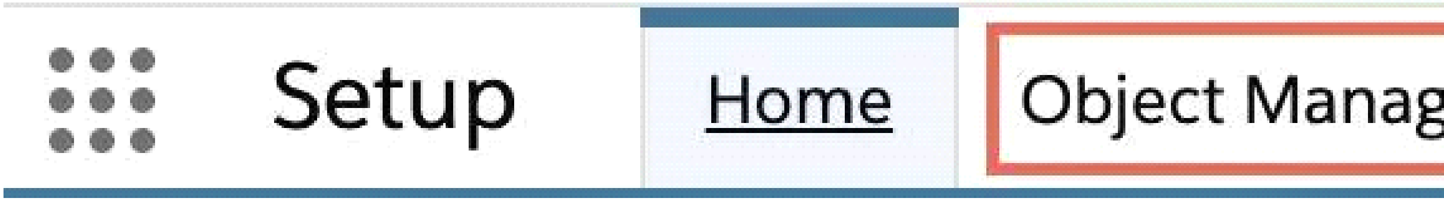
Object

Create Automobile Information Object

- Download and open this spreadsheet, save it as AutomobileInformation.csv.
- Make sure to download the File into CSV format.
  Note : Make sure to have the name of the file as “Automobile Information”.

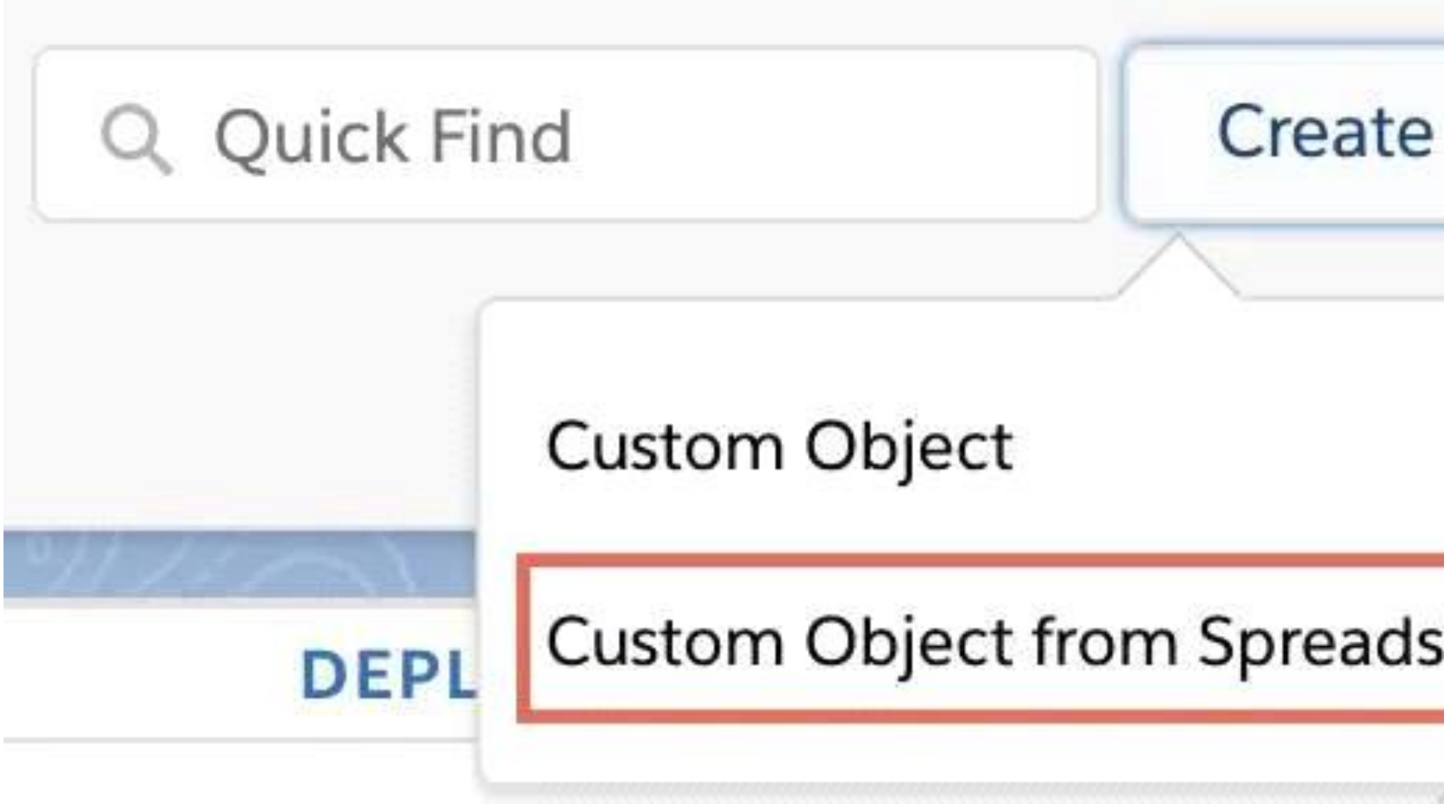
Log into your salesforce account, click  , then select Setup.

1. Click the Object Manager tab.

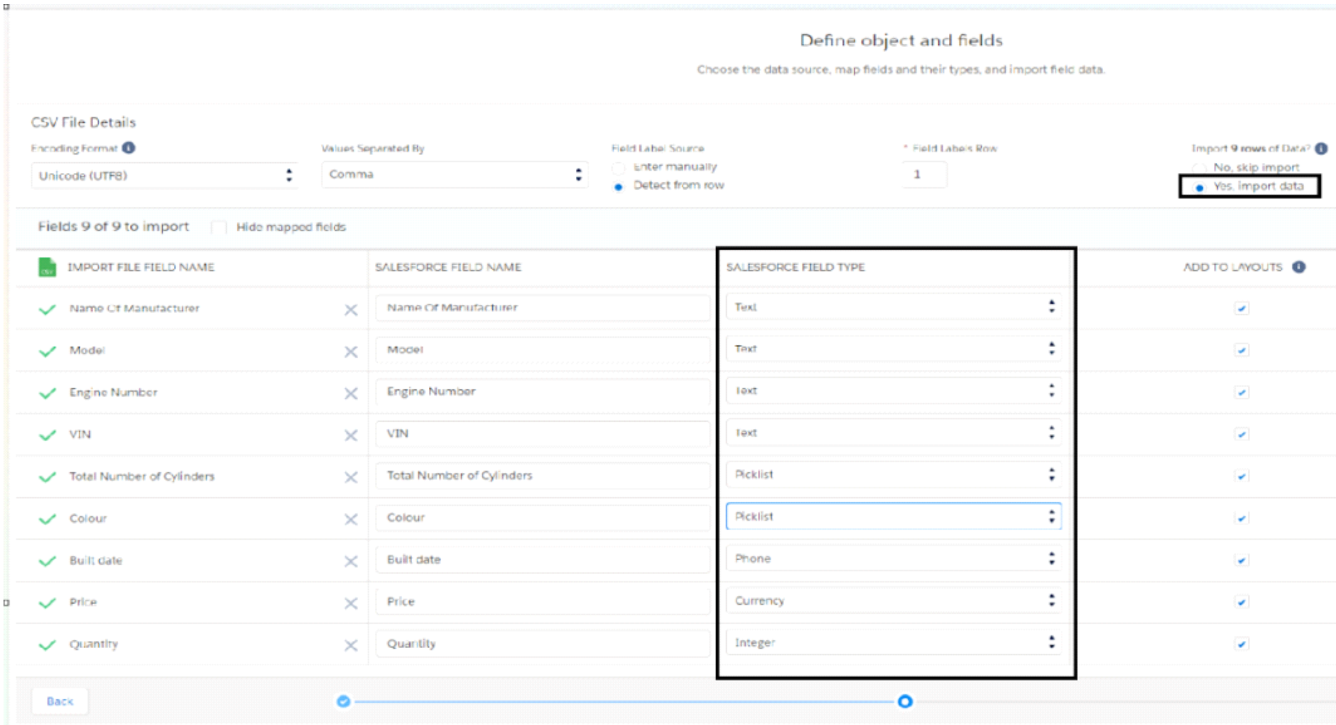


2. Click Create.

3. Select Custom Object from Spreadsheet.



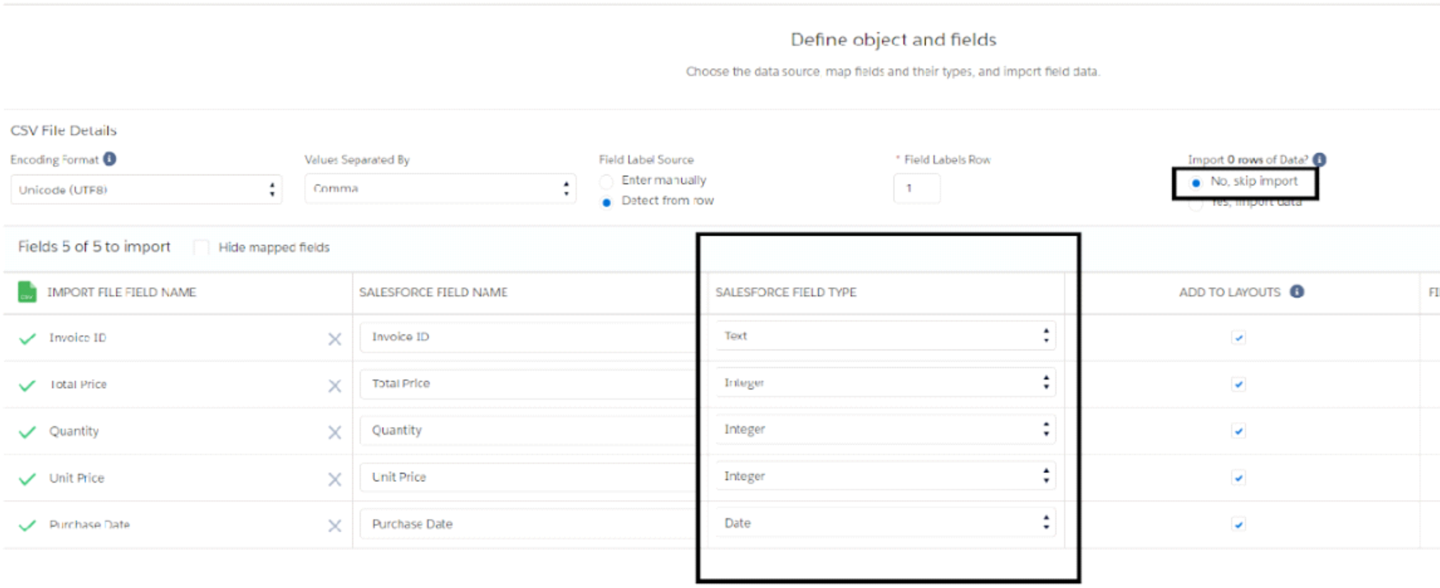
4. Click Login With Salesforce.
5. Enter your Salesforce account username and password. (which you have created in the Milestone 1, Activity 1)
6. Click Log In.
7. Click Allow.
8. Click Upload.
9. Navigate to the Automobile Information.csv file you downloaded and upload it. Salesforce automatically detects the fields and populates all its record data. Choose the Record Name field and make sure all fields are with the proper datatypes as below as they are.



1. Click Next and enter the following settings.
2. Click Finish. The Automobile Information object is successfully created and data imported, all within minutes.

Create Invoice Object

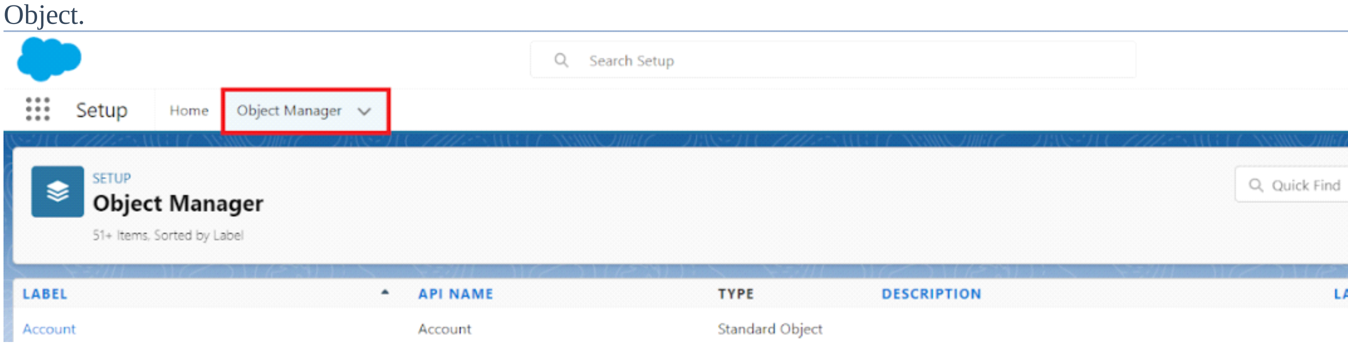
Create Invoice object, just as we have created an Automobile Information Object using this sheet
Make sure to Download the File into CSV Format.
Note: Make sure you do field mapping with proper field type as shown below.



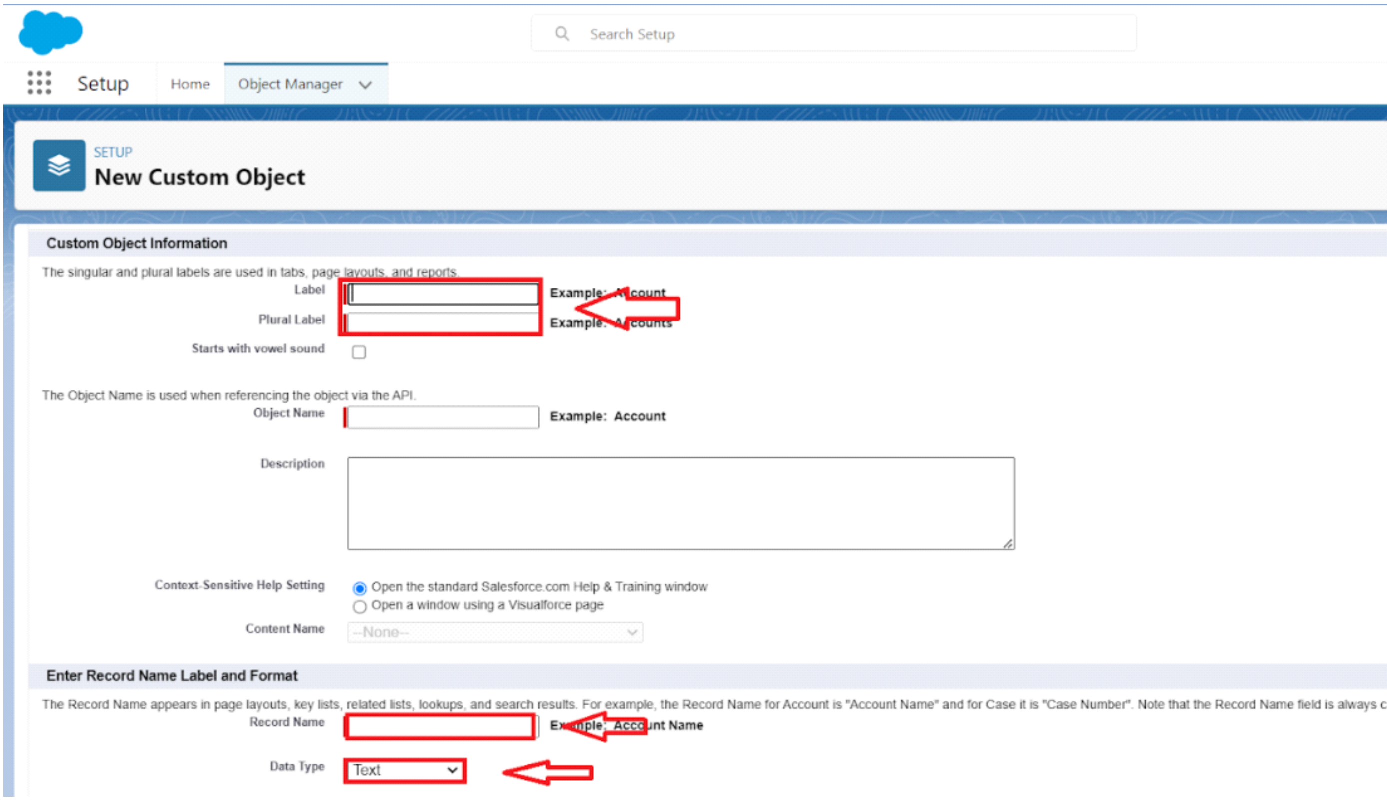
Create Automobile Object

The purpose of creating an Automobile custom object is to store and manage information about Invoice.
To create an object:

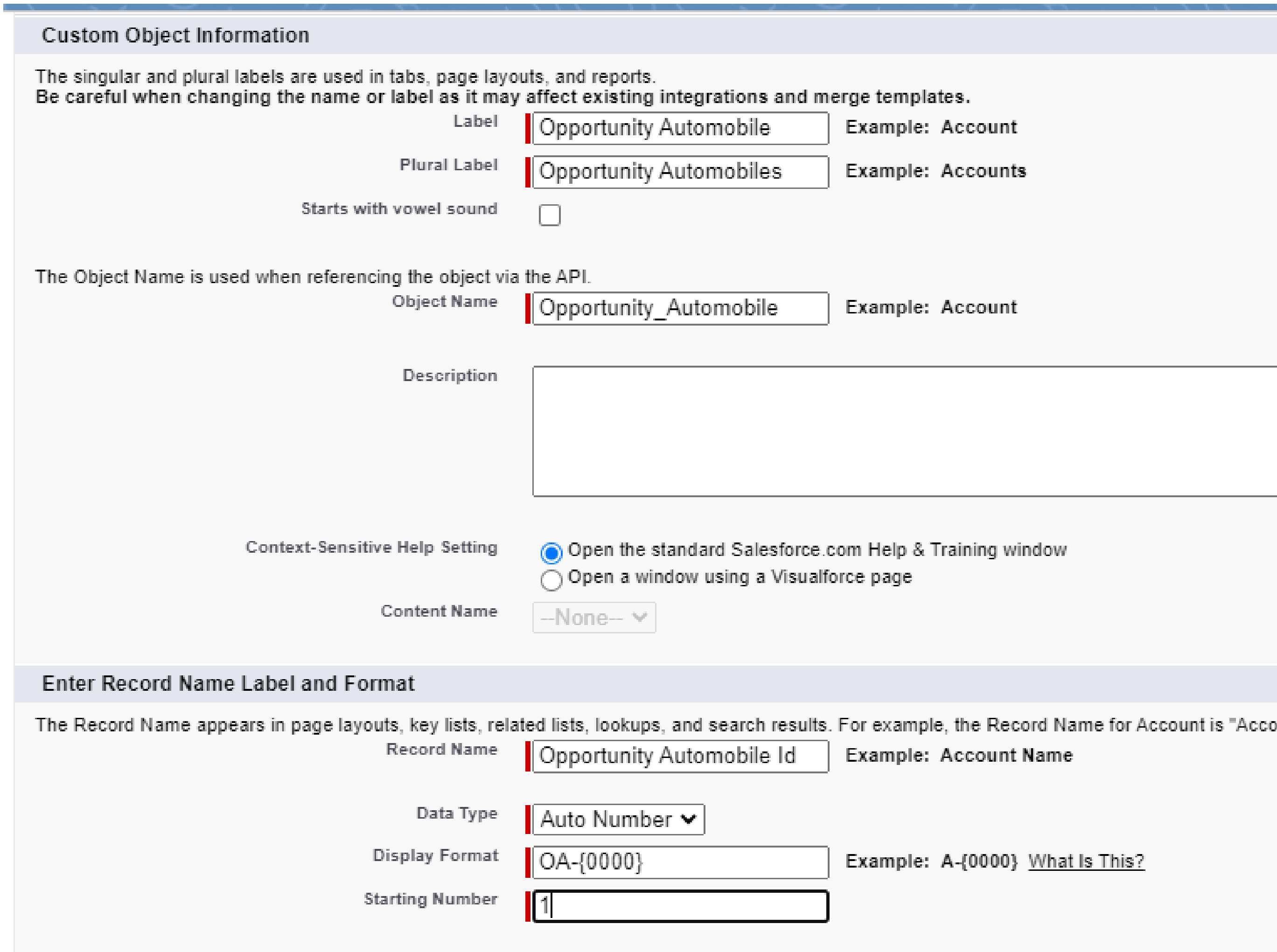
- From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.



- Enter the label name? Opportunity Automobile
- Plural label name?Opportunity Automobiles



1. Enter Record Name Label and Format
   - Record Name >> Opportunity Automobile Id
   - Data Type >> Auto Number
   - Display Format >> OA-{0000}
   - Starting Number >> 1

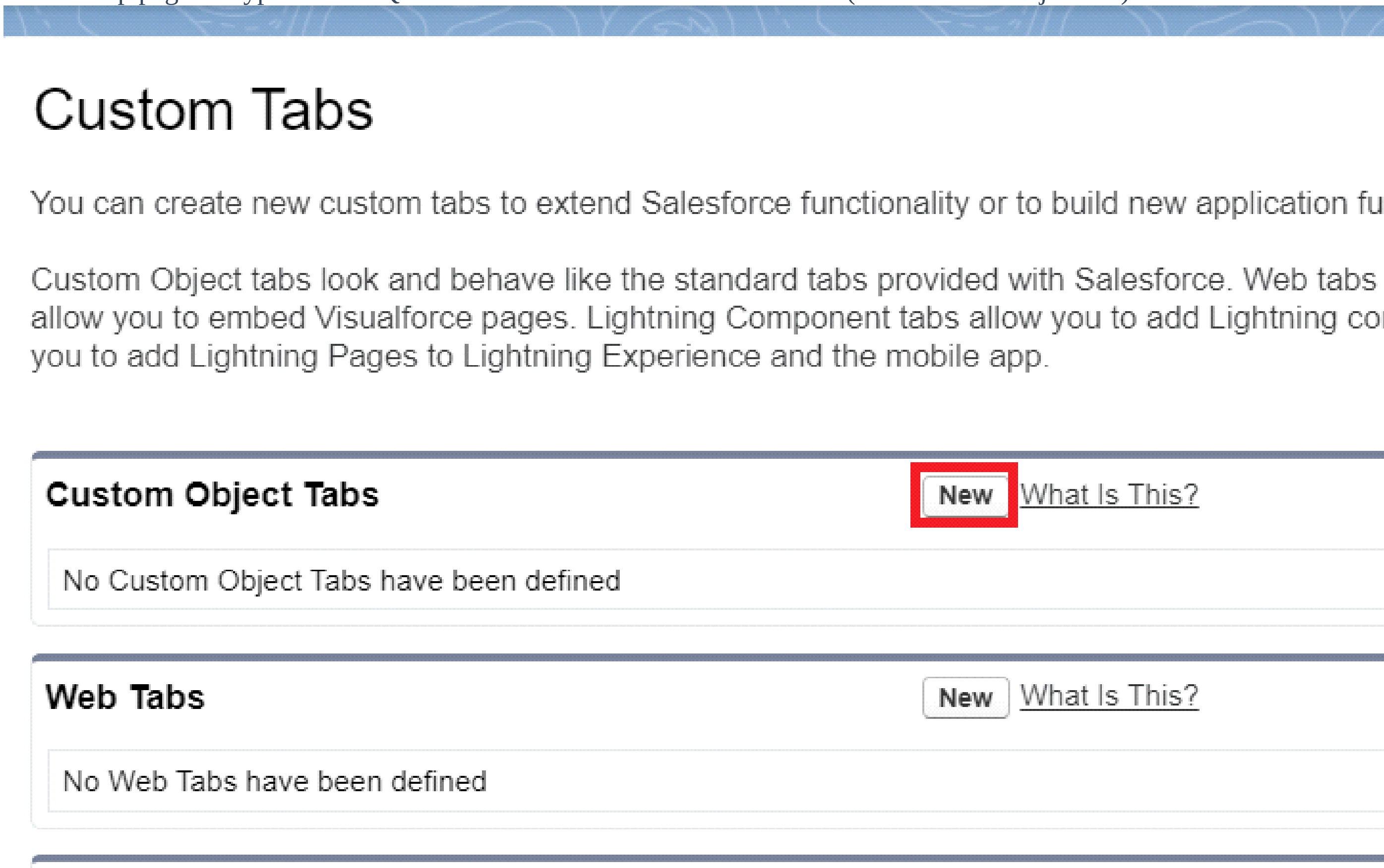


1. Click on Allow reports.
2. Allow search
3. >> Save.

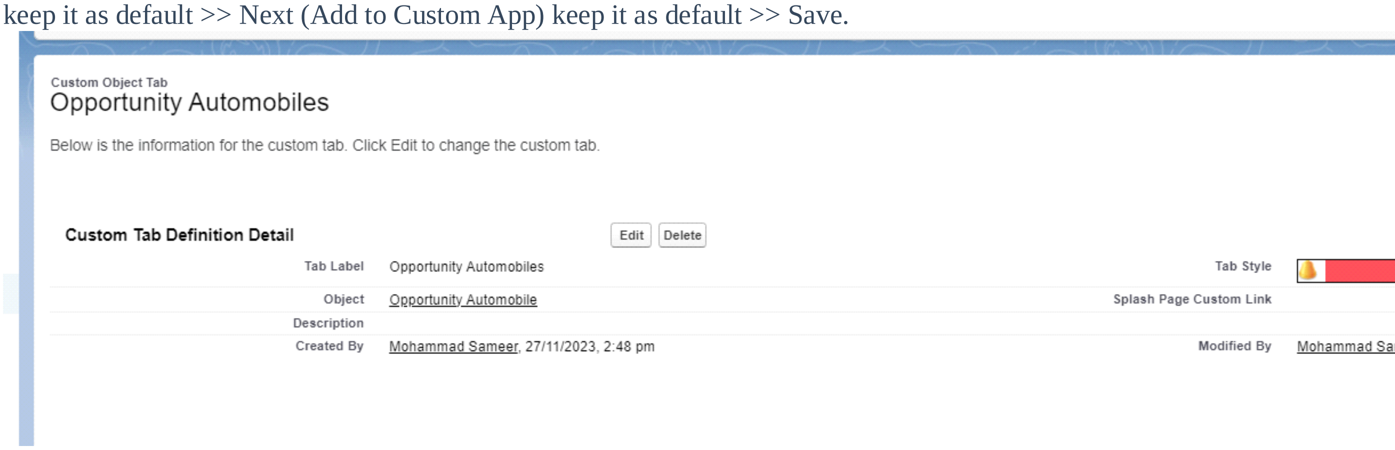
Tabs

Creating A Custom Tab

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



- Select Object(Opportunity Automobile) >> Select any tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) keep it as default >> Save.

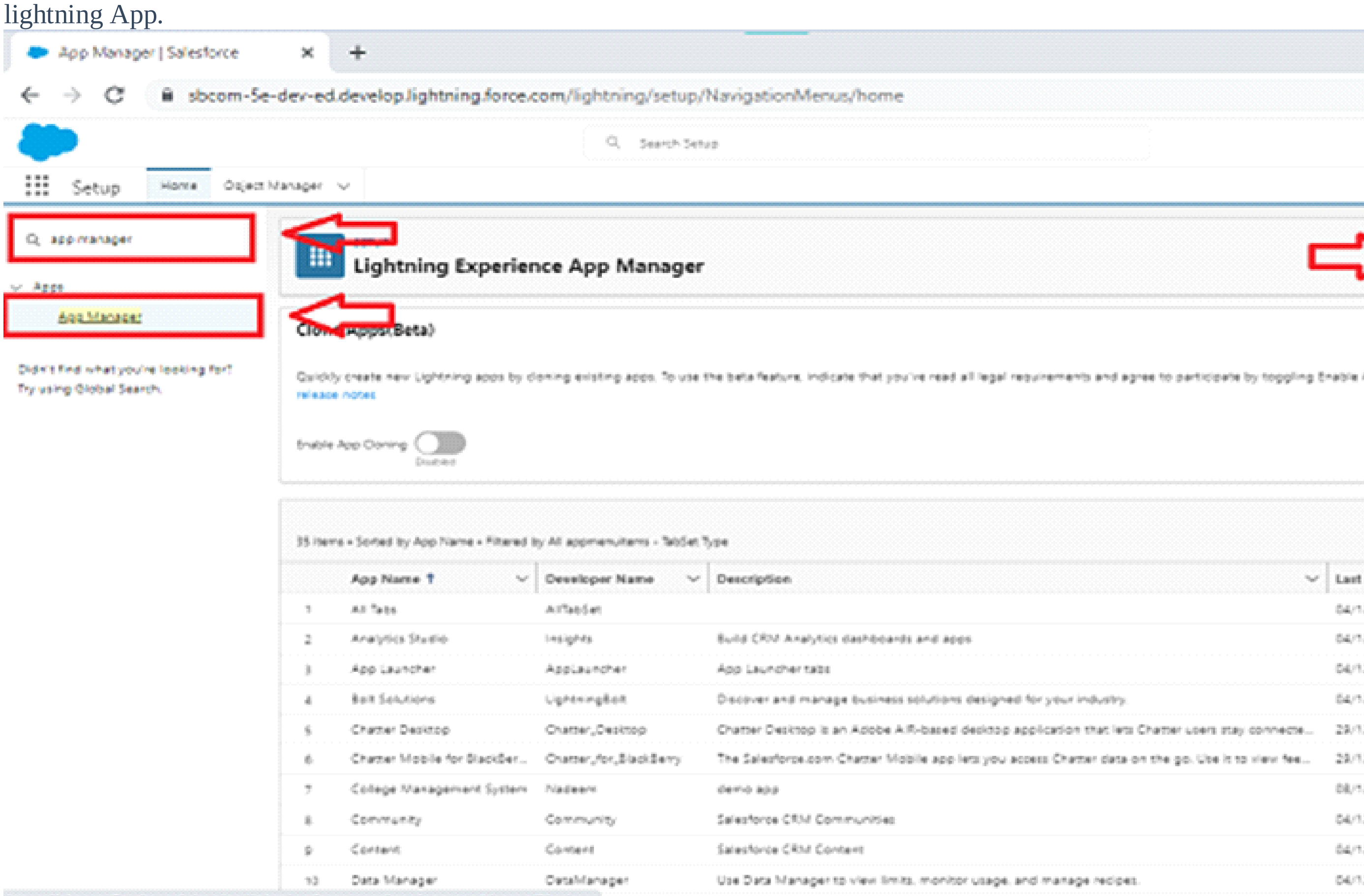


Note: Tabs for Automobile Information & Invoice objects do get created automatically. We do not need to create tabs for those objects.

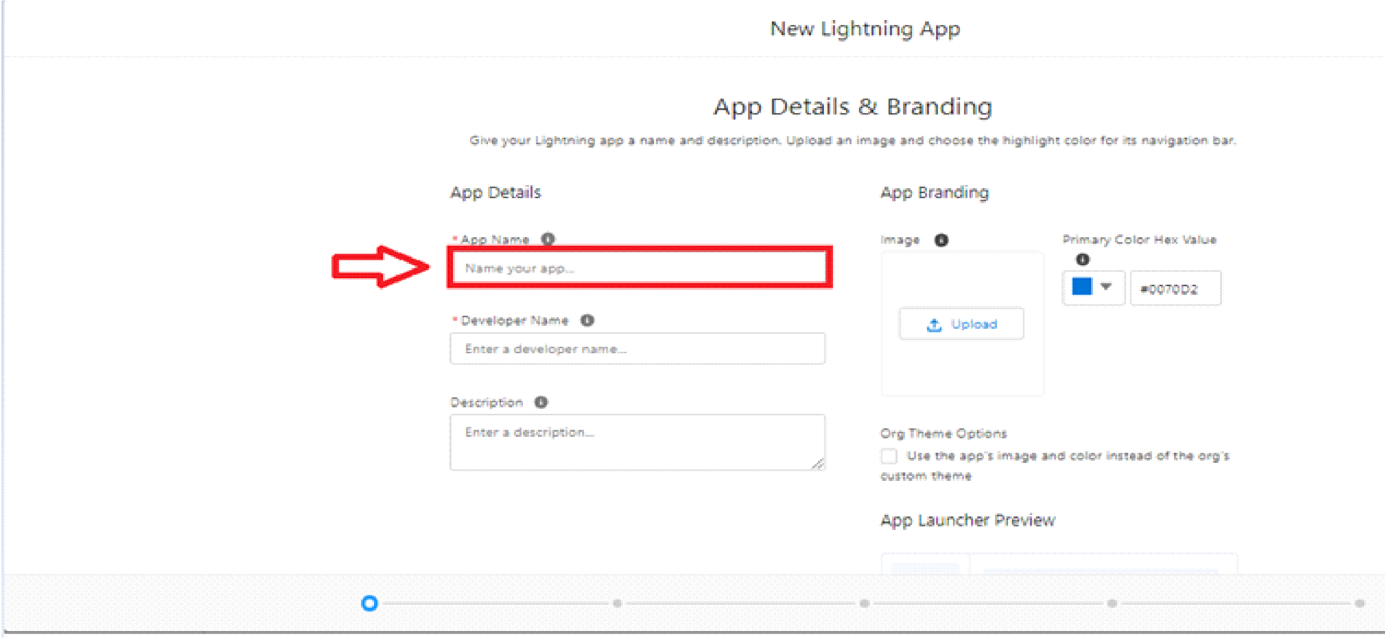
The Lightning App

Create A Lightning App

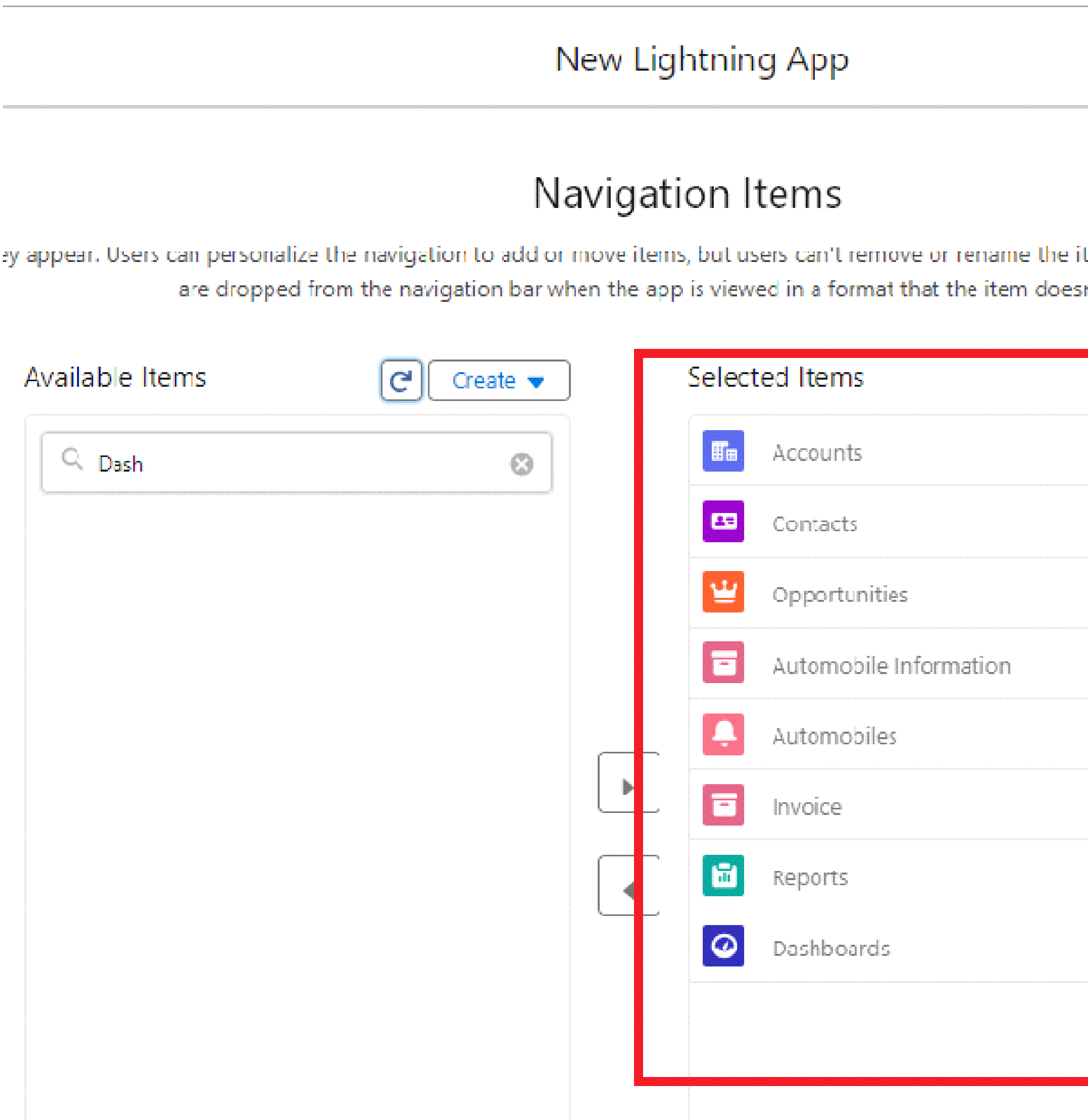
- Go to setup page >> search “app manager” in quick find >> select “app manager” >> click on New lightning App.



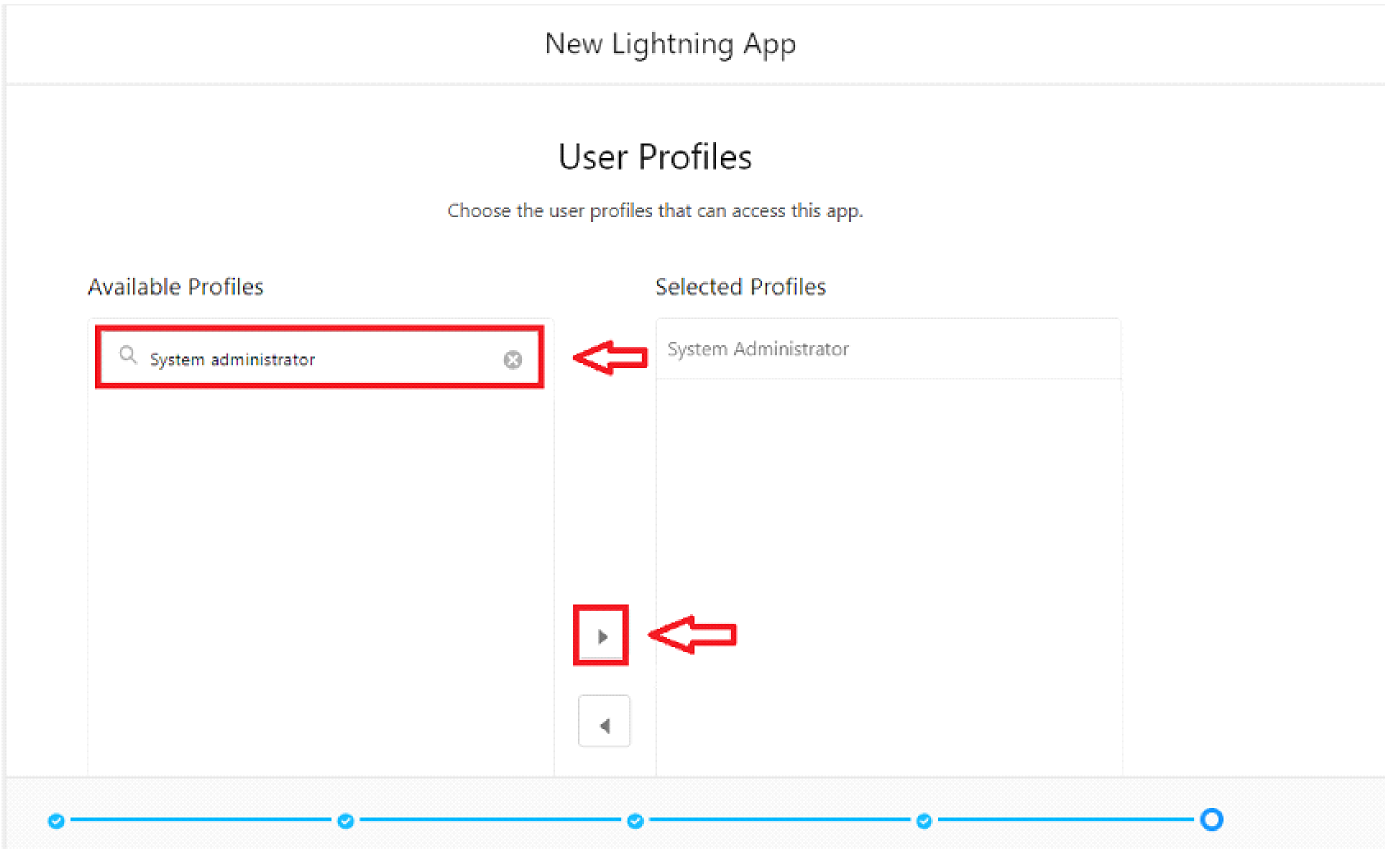
- Fill the app name in app details and branding as follow
  a. App Name :Sales Automobile Using Salesforce CRM
  b. Developer Name : this will auto populated
  c. Description : Give a meaningful description
  d. Image : optional (if you want to give any image you can otherwise not mandatory)
  e. Primary color hex value : keep this default
- Then click Next >> (App option page) keep it as default >> Next >> (Utility Items) keep it as default >> Next.



- Add Navigation Items:



- Search the items in the search bar(Account,Contact ,Opportunities,Automobile Information,Opportunity Automobile,Invoice, Reports, Dashboard) from the search bar and move it using the arrow button ? Next. Note: select asset the custom object which we have created in the previous activity.



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

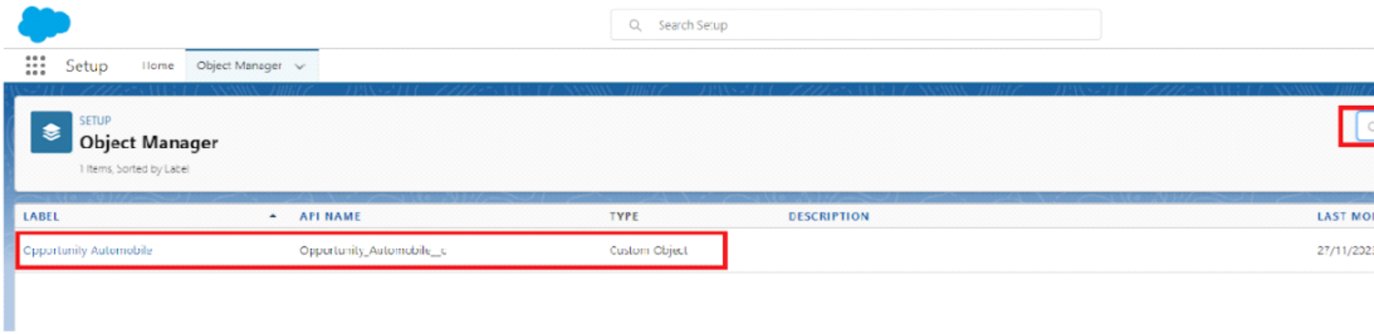
Fields & Relationships

Creating Opportunity Master Detail Relationship Field

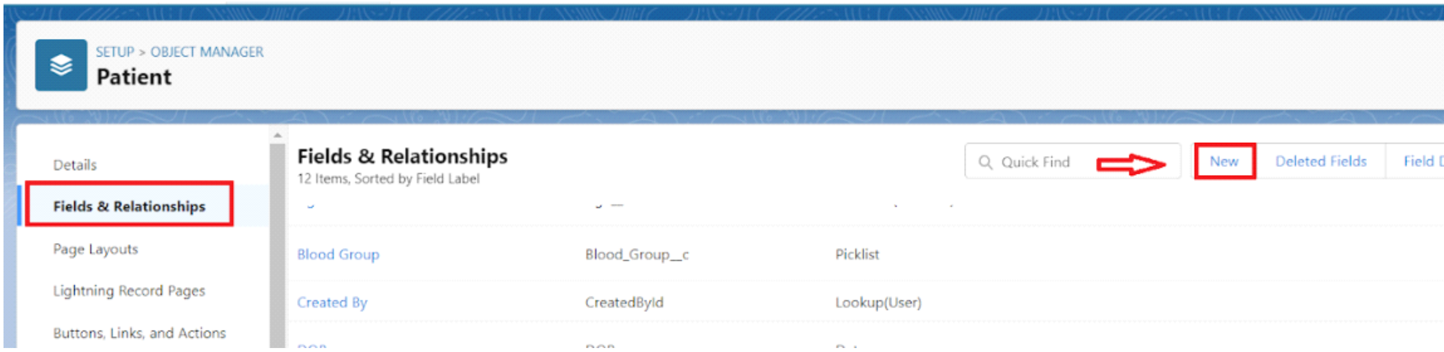
In Opportunity AutoMobile Object

To create fields in an object:

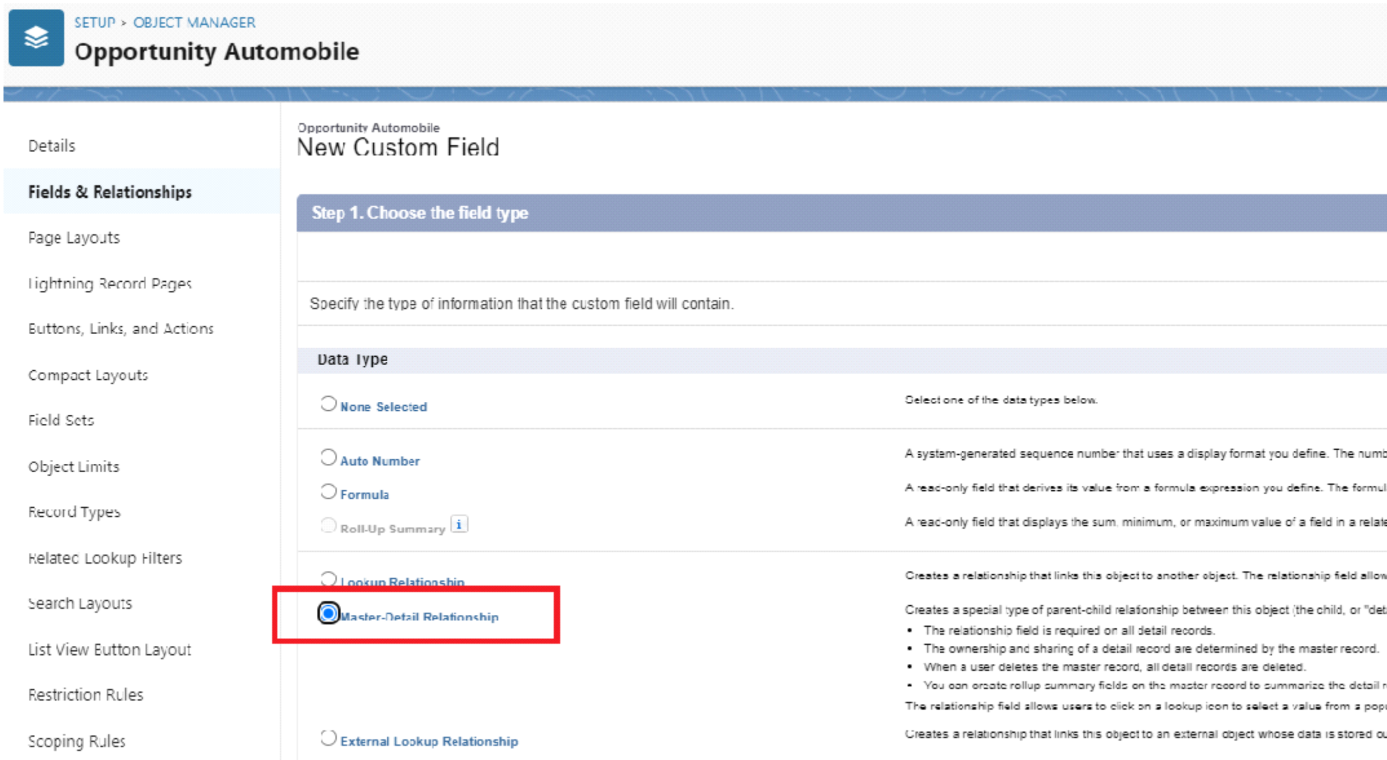
- Go to setup >> click on Object Manager >> type object name(Opportunity Automobile) in quick find bar>> click on the
  object.



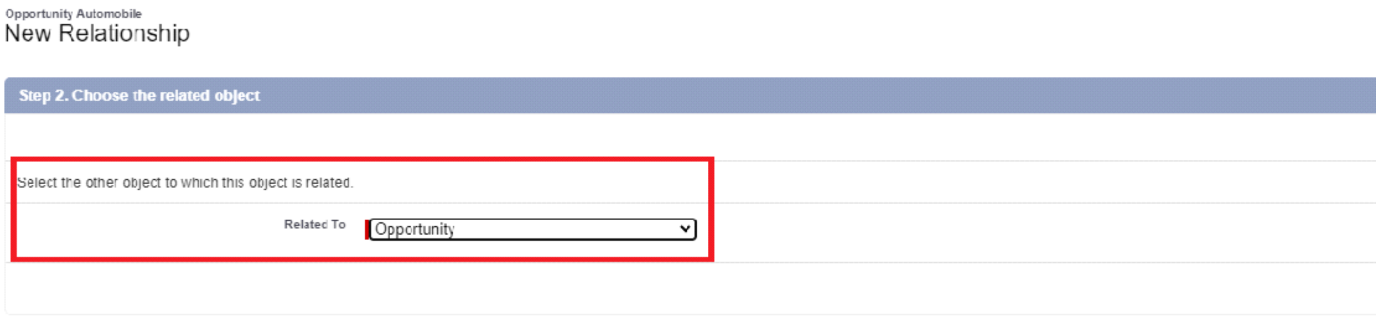
- Now click on “Fields & Relationships” >> New



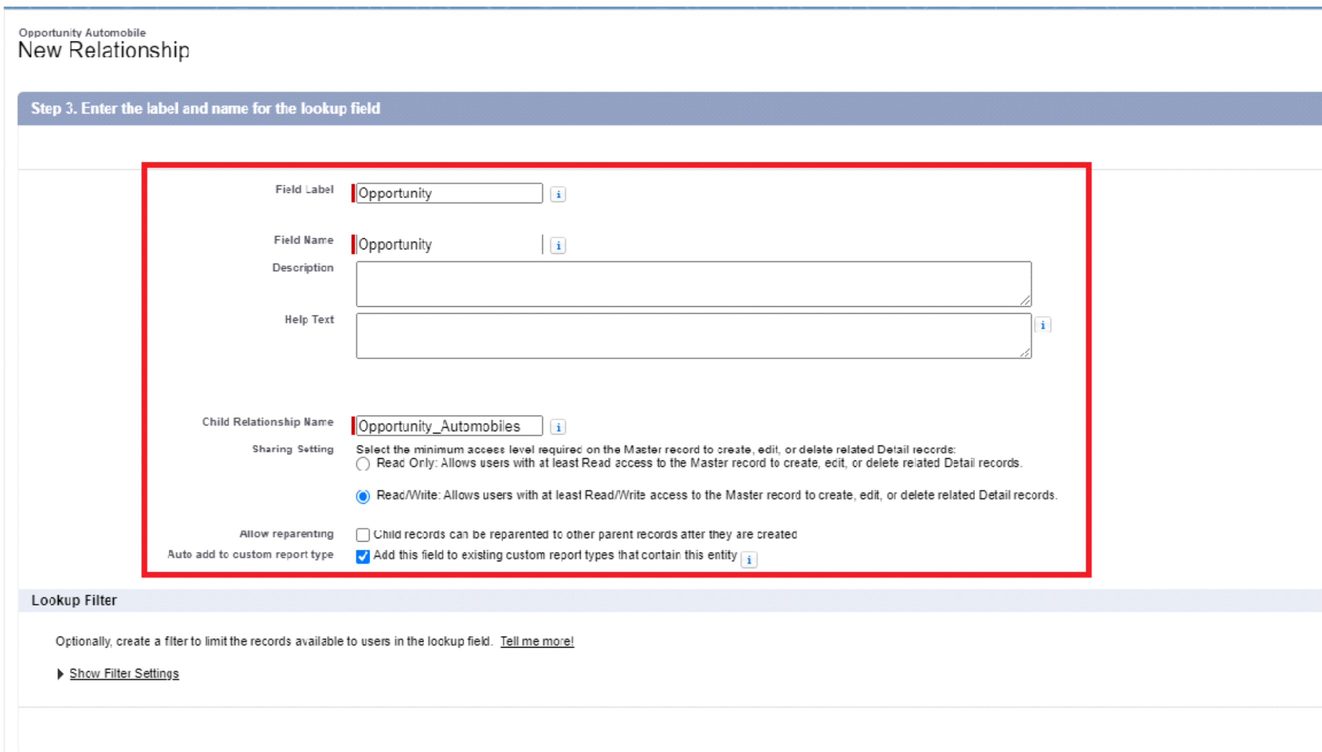
1. Select Data type as “Master Details Relationship”.



1. Click on Next



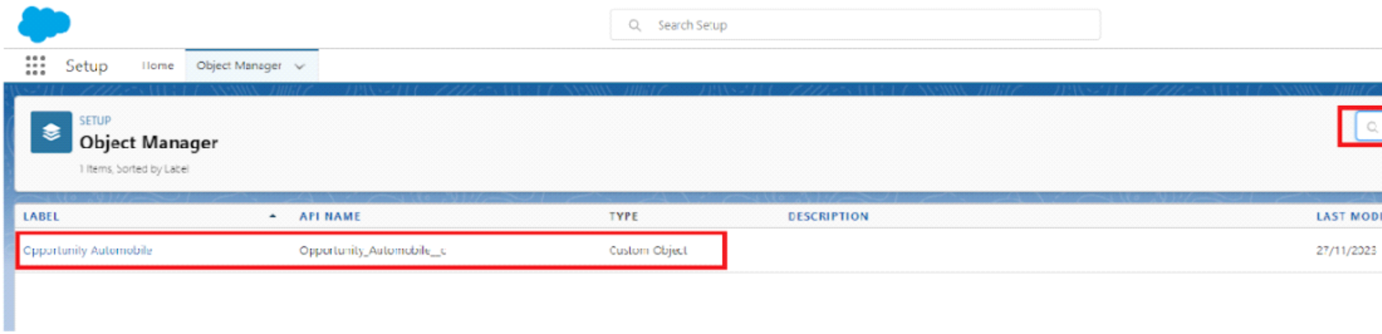
1. Fill the above as following:
- Field Label: gets auto Generated(Opportunity)
- Field Name : gets auto generated(Opportunity)
- Click on Next >> Next >> Save and new.



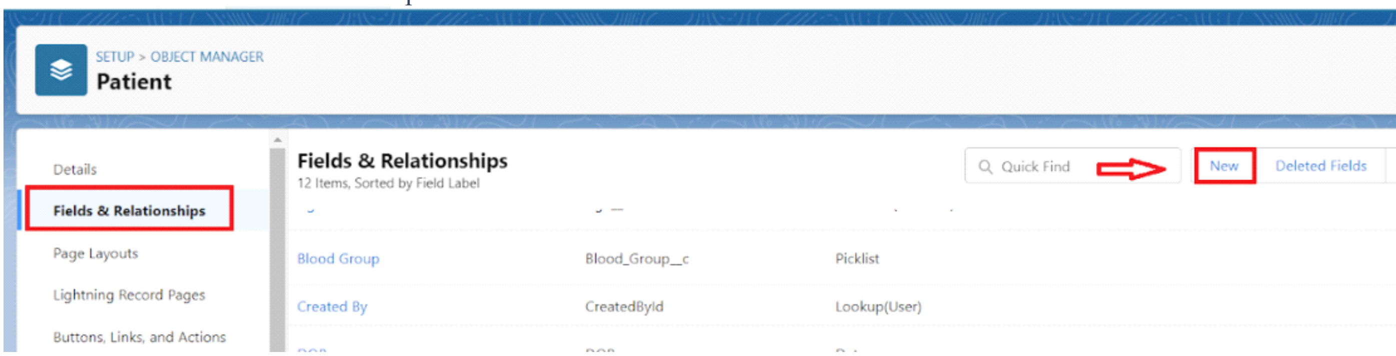
Creating The AutoMobile Information Lookup Field In Opportunity Automobile Object

To create fields in an object:

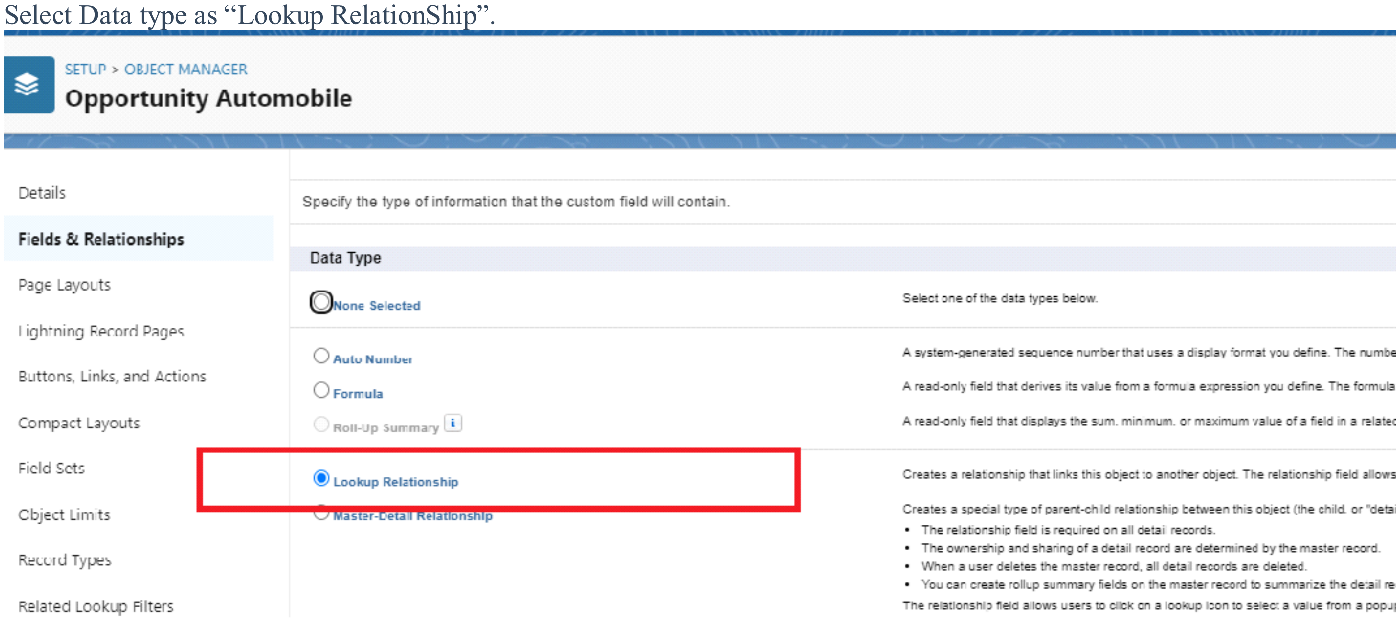
- Go to setup >> click on Object Manager >> type object name(Opportunity Automobile) in quick find bar>> click on the object.



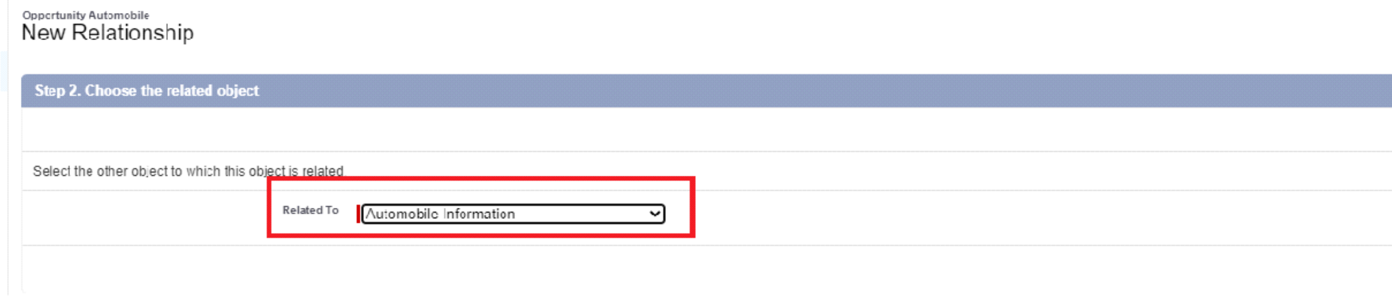
- Now click on "Fields & Relationships" >> New



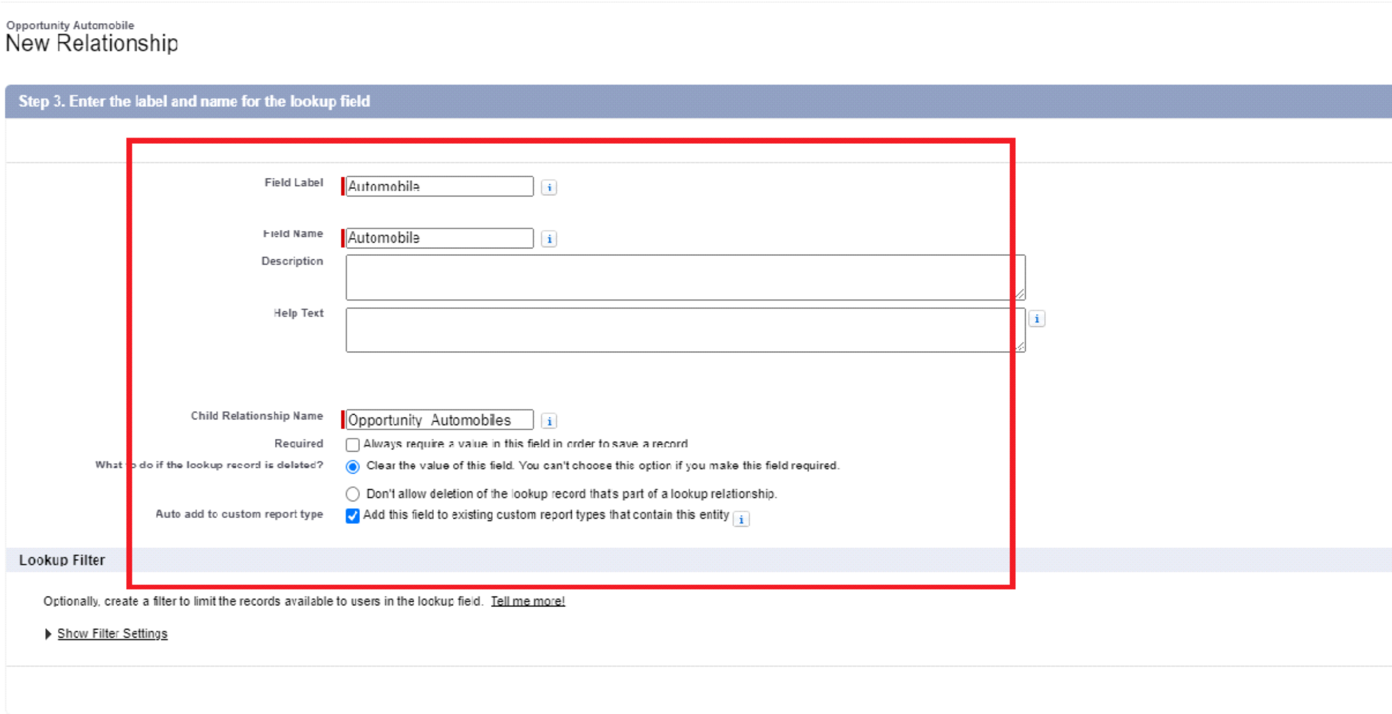
- Select Data type as "Lookup RelationShip".



- Click on Next



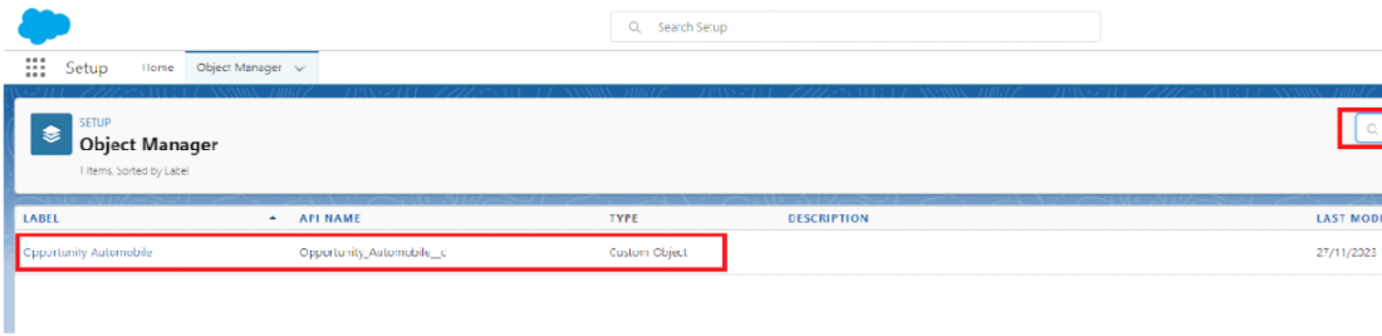
- Fill the above as following:
  a. Field Label: Automobile
  b. Field Name : Automobile
- Click on Next >> Next>> Save and new.



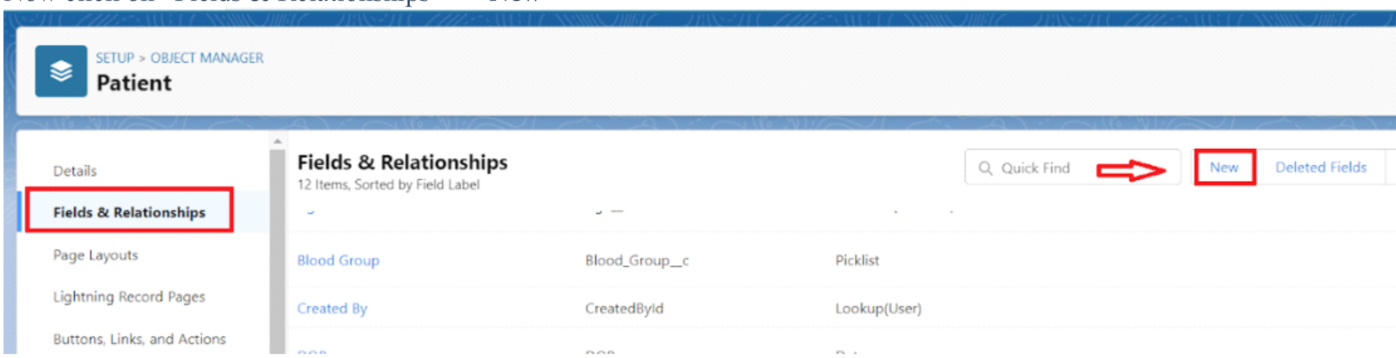
Creating The AutoMobile Information Lookup Field In Opportunity Automobile Object

To create fields in an object:

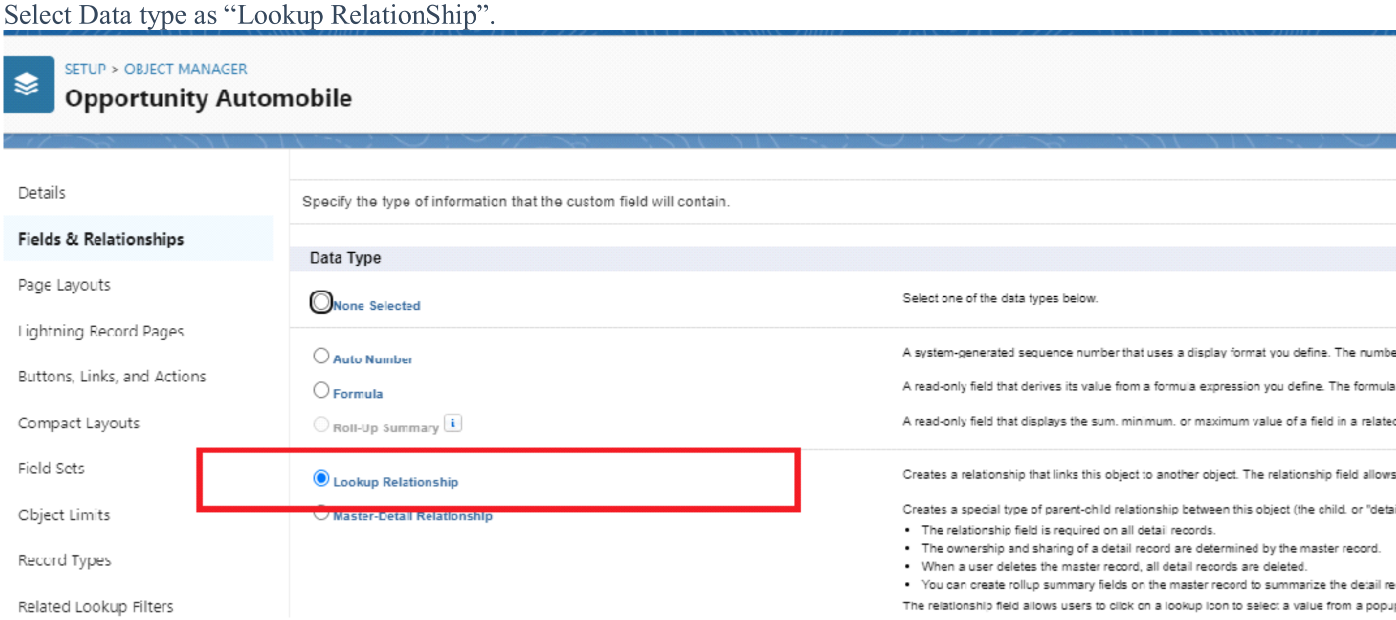
- Go to setup >> click on Object Manager >> type object name(Opportunity Automobile) in quick find bar>> click on the
  object.



- Now click on “Fields & Relationships” >> New

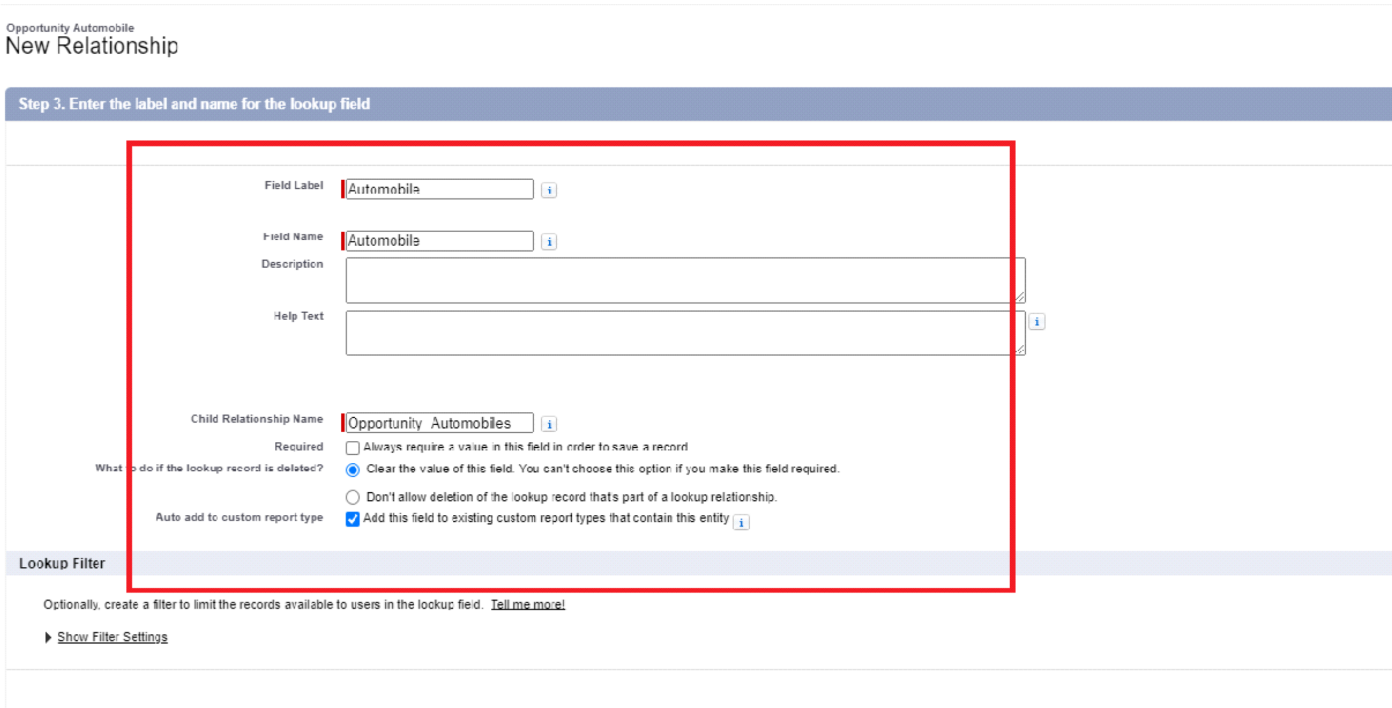


- Select Data type as “Lookup RelationShip”.



- Click on Next

- Fill the above as following:
    a. Field Label: Automobile
    b. Field Name : Automobile
- Click on Next >> Next>> Save and new.

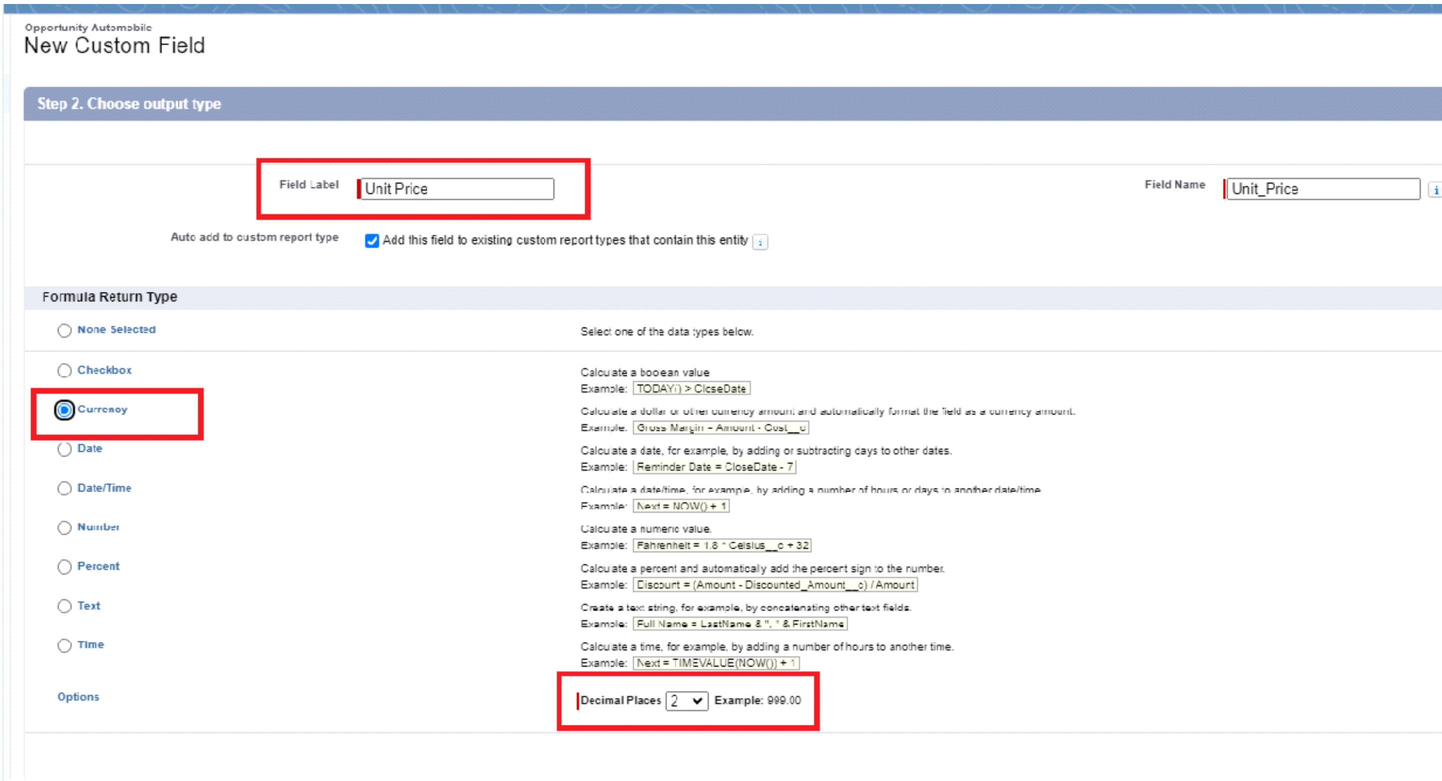


Creating Formula Field In Opportunity Automobile Object

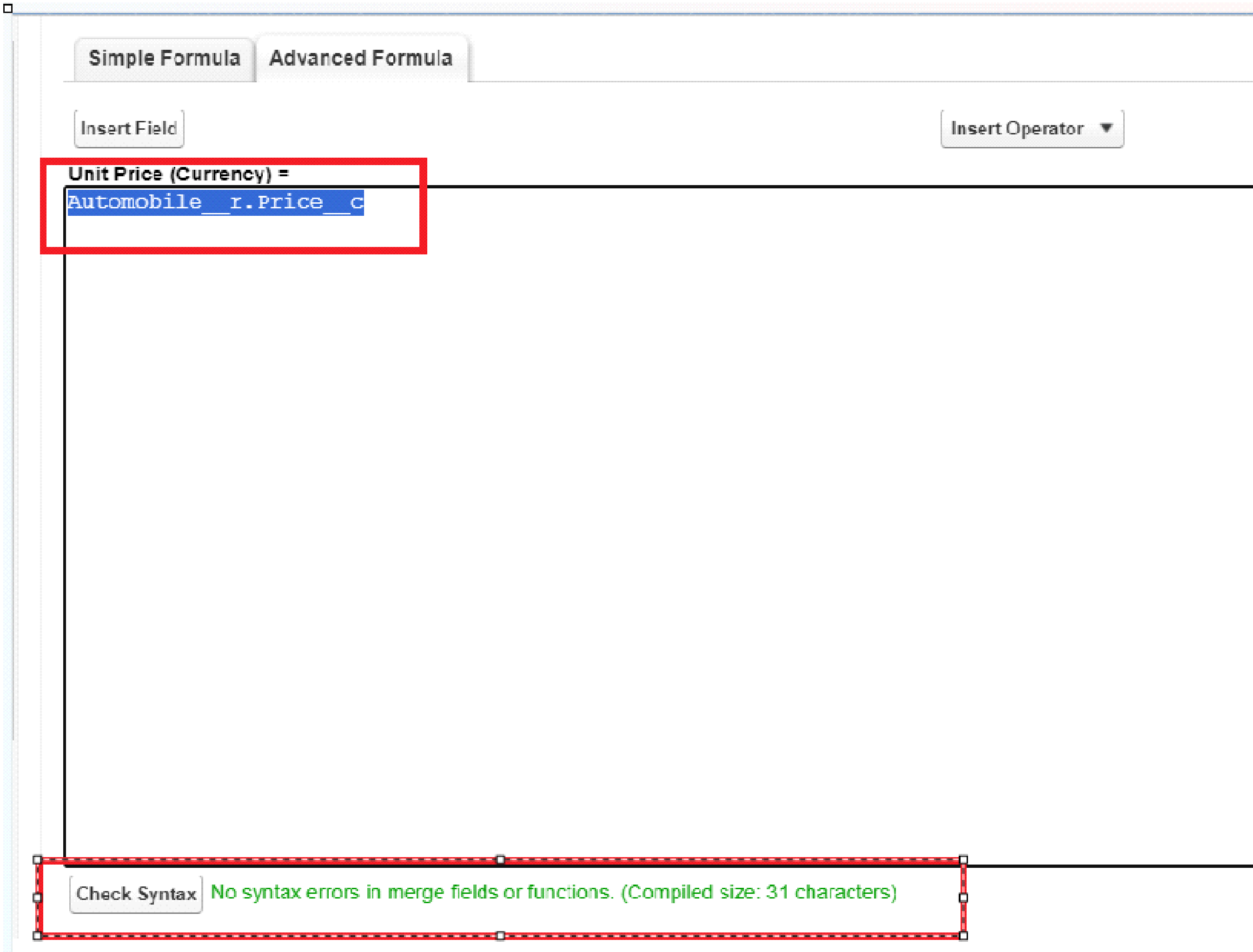
To create fields in an object:
1. Go to setup >> click on Object Manager >> type object name(Opportunity Automobile) in quick find bar >> click on the object.

- Now click on “Fields & Relationships” >> New.
- Select Data type as “Formula” and click Next.

- Give Field Label and Field Name as “Unit Price” and select formula return type as “Currency” and change the decimal values to two and click next.



1. Under Advanced Formula write down the formula : Automobile__r.Price__c



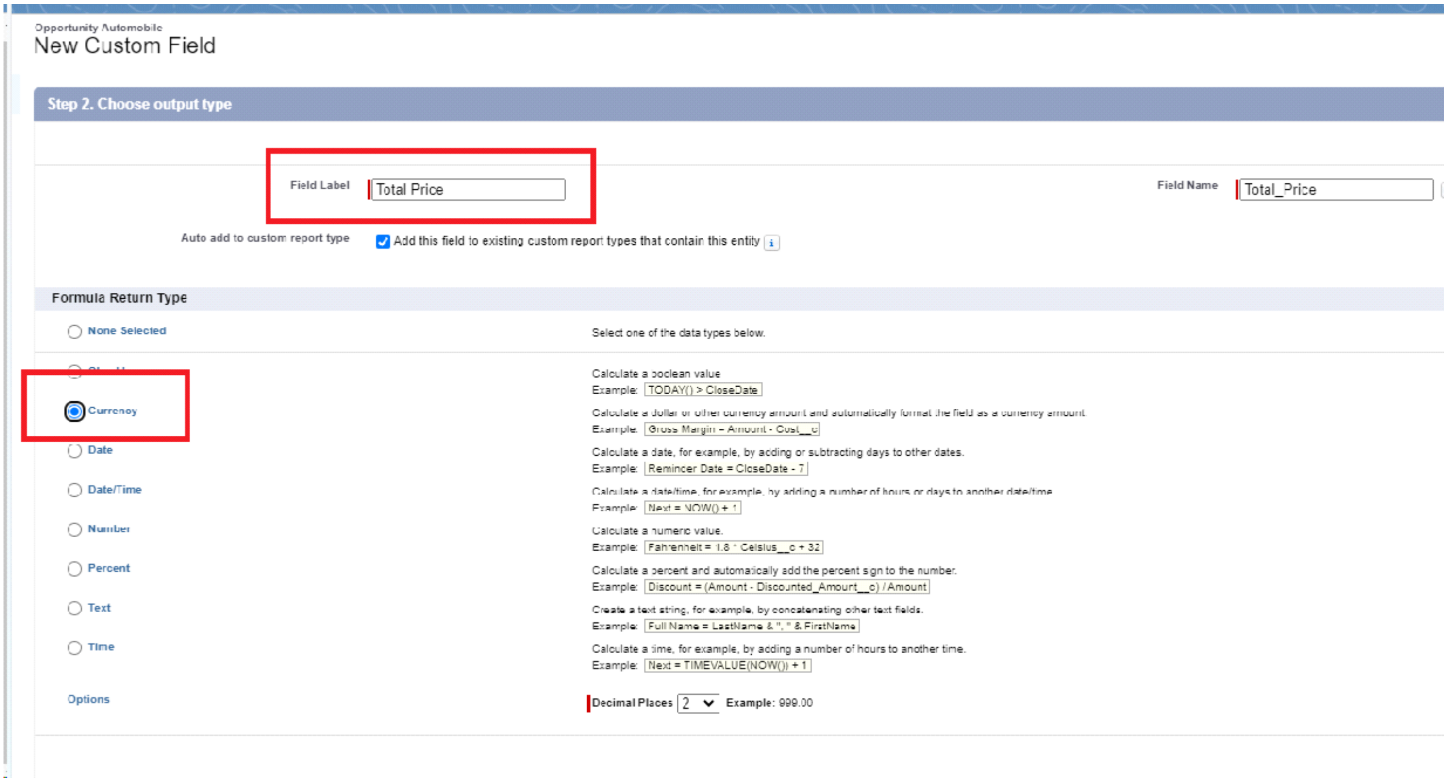
1. click “Check Syntax” and Next >> Next >> Save & New.

Creating The Formula Field In Opportunity Automobile Object

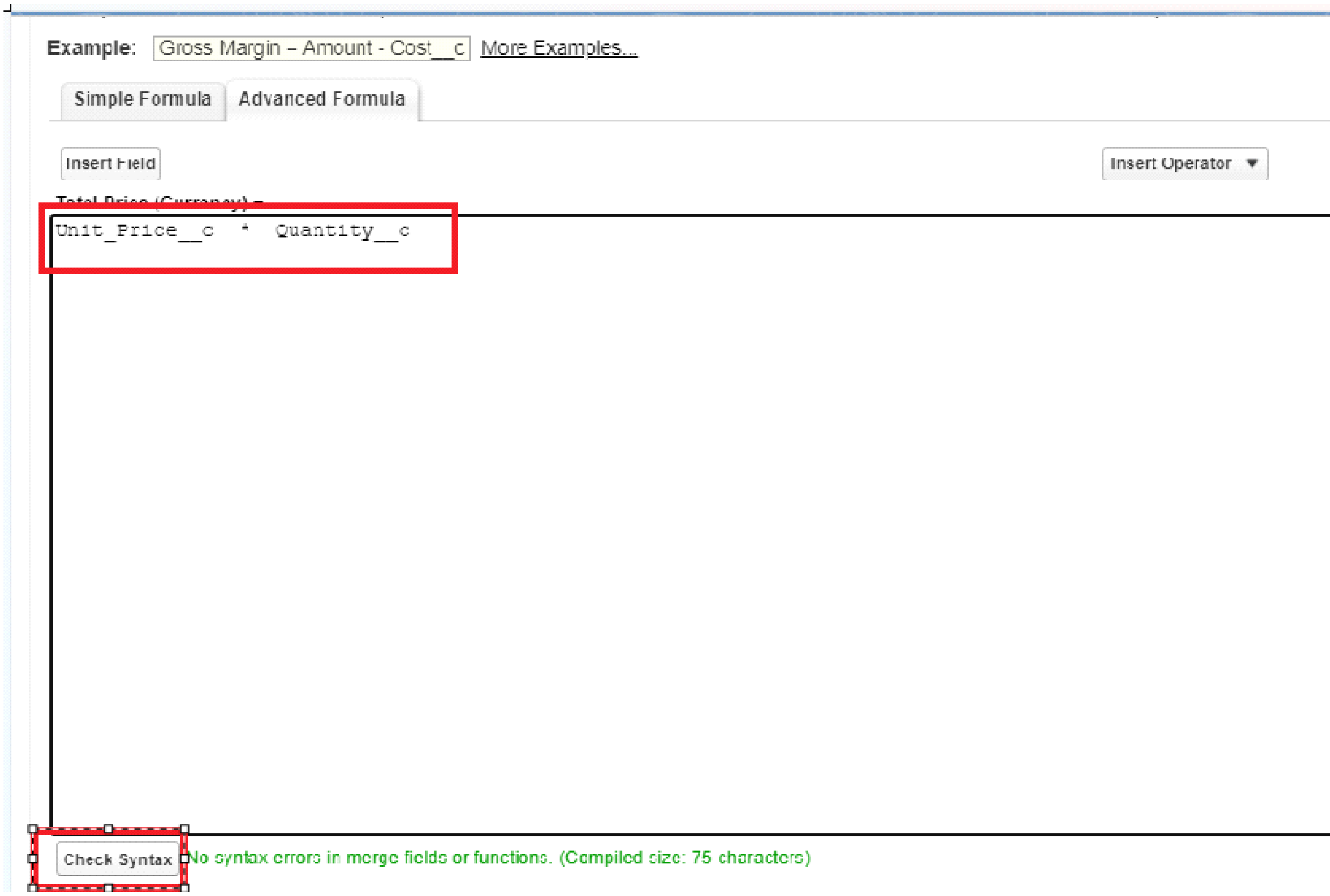
To create fields in an object:

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

- Now click on “Fields & Relationships” >> New.
- Select Data type as “Formula” and click Next.
- Give Field Label and Field Name as “Total Price” and select formula return type as “Currency” and change the decimal values to two and click next.



1. Under Advanced Formula write down the formula : Unit_Price__c * Quantity__c



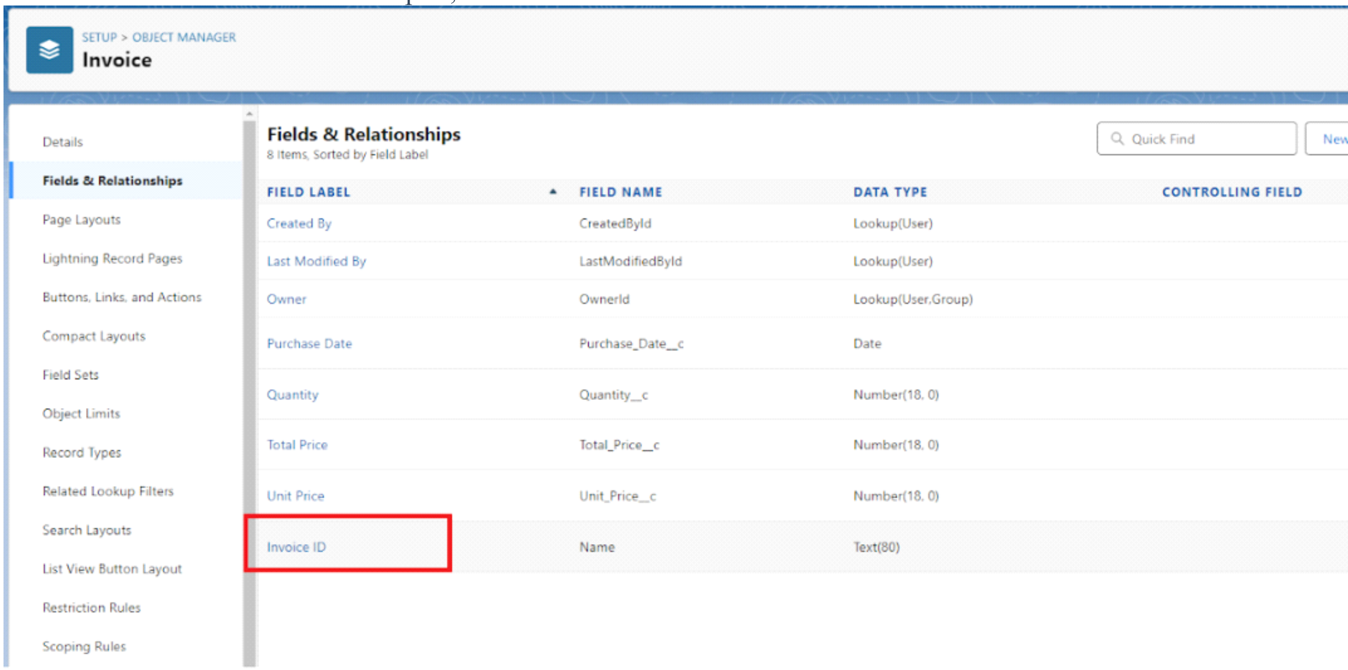
1. click “Check Syntax” and Next >> Next >> Save.

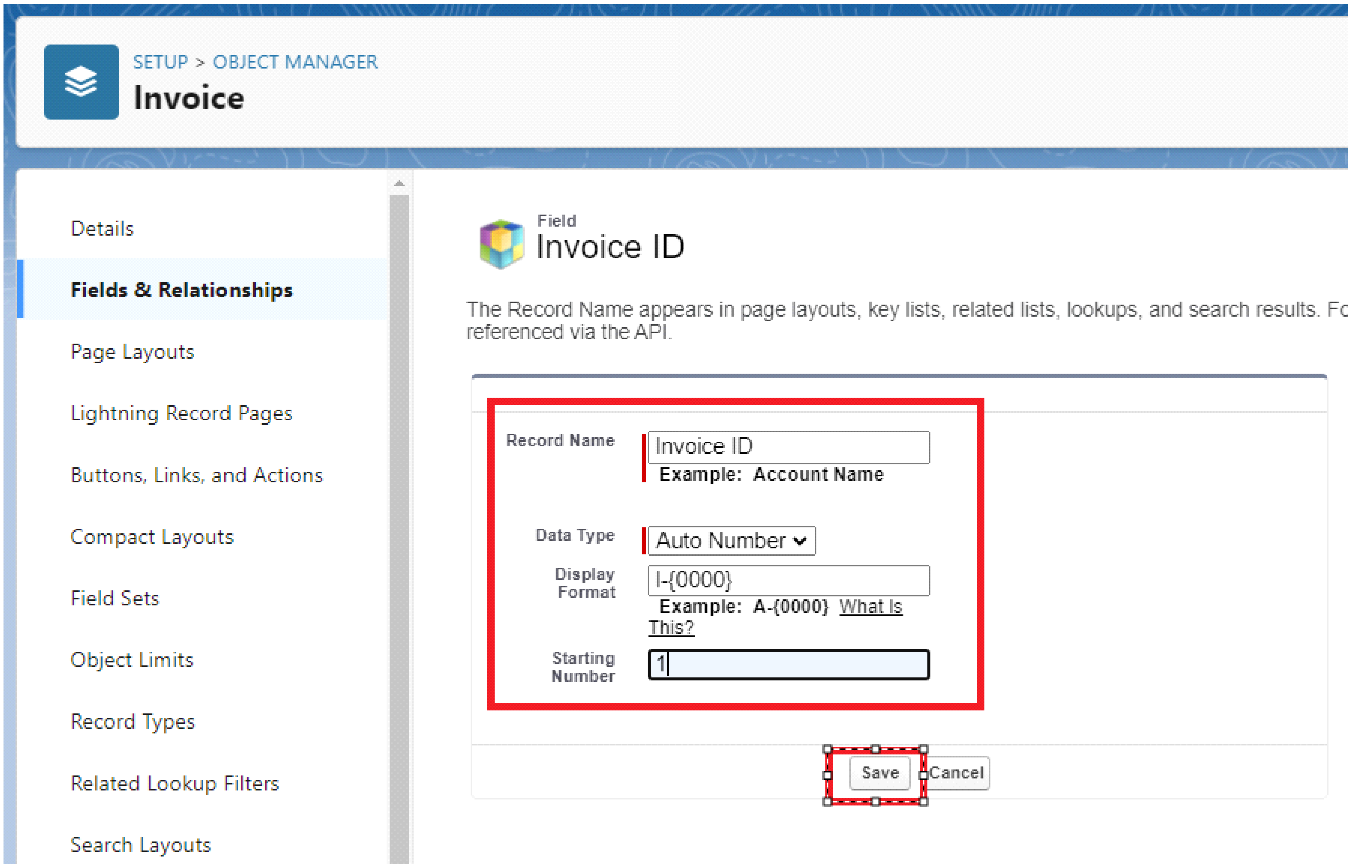
Updating Field In Invoice Object

To Update fields in an object:

- Go to setup ? click on Object Manager ? type object name(Invoice) in quick find bar? click on the object.

- Now click on “Fields & Relationships” , Click on the edit of Invoice Id field.





- Select Data type as “Auto Number ” and click Next.

a. Display Format :- I-{0000}
b. StartingNumber:-

- Click Save.

• Creating Remaining Fields In Objects

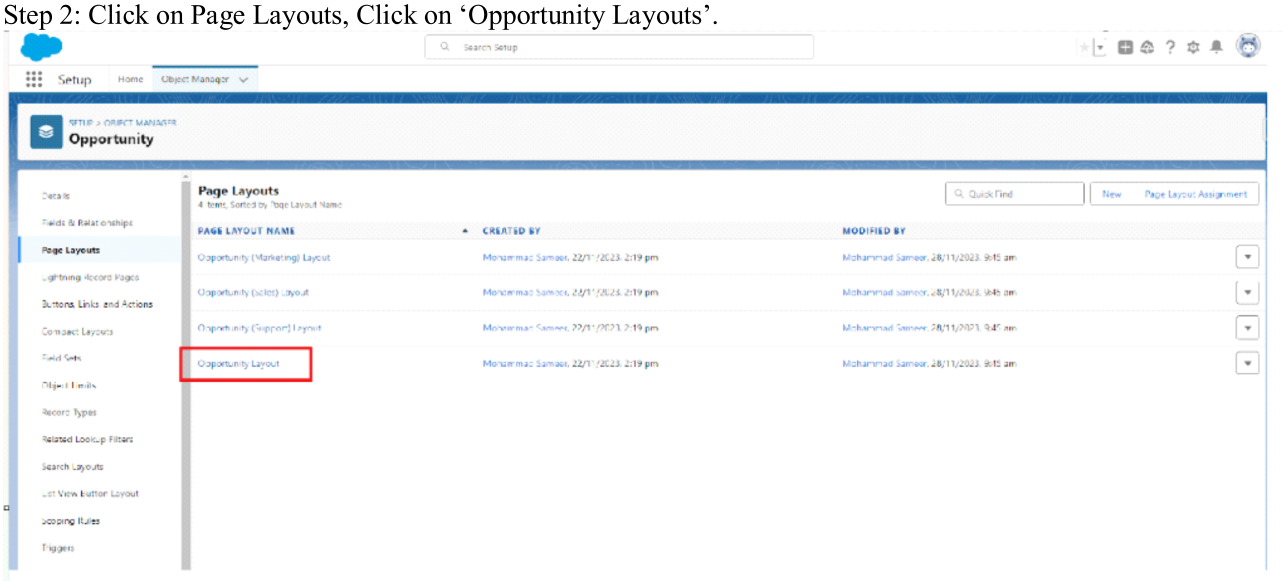
- Now create the remaining fields using the data types mentioned.
-

<table>
<tr><th>s.no</th><th>Object name</th><th>Fields</th></tr>
<tr><td>1</td><td>Invoice</td><td><table><tr><td>Field Name</td><td>Opportunity</td></tr><tr><td>Data type</td><td>Master Detail relationship
Object : Opportunity</td></tr></table></td></tr>
</table>

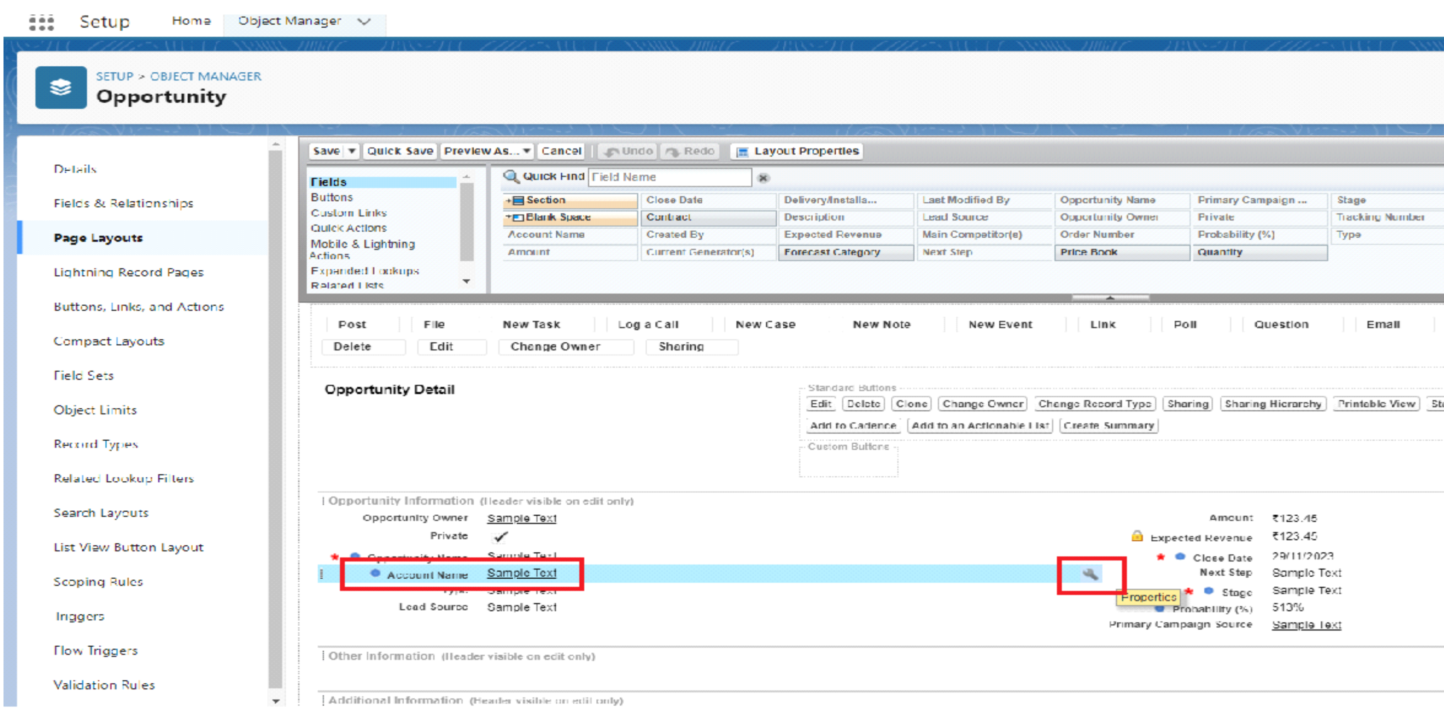
Page Layouts

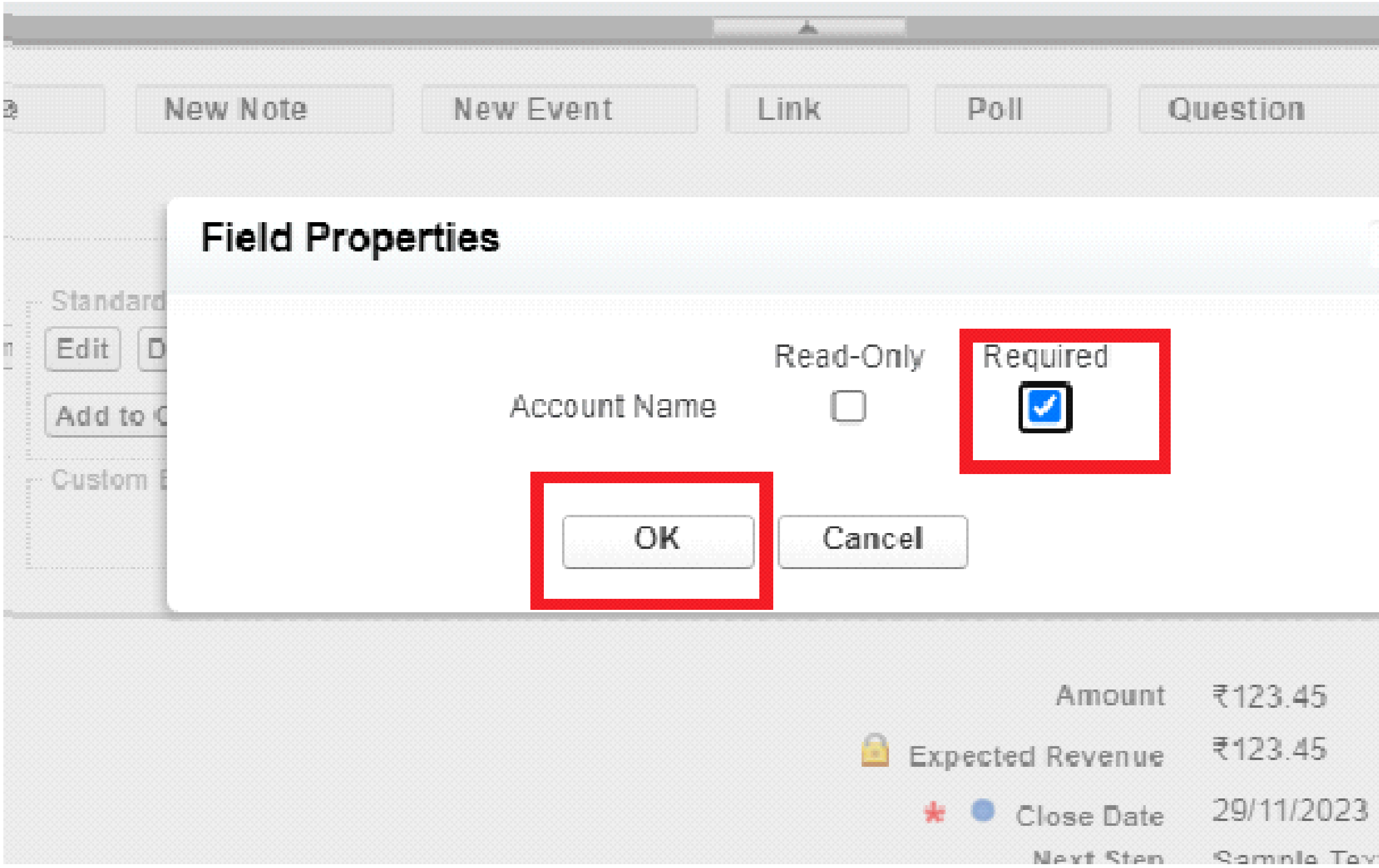
Edit The Page Layout For Opportunity Object

Step 1: Go to Setup >> Click on Object Manager >> On the search bar, select Opportunity Layout. You can notice Page Layouts on the left panel
Step 2: Click on Page Layouts, Click on 'Opportunity Layouts'.



Step 3: In the Opportunity Detail Section, you can see various fields. Go on Account And Click on that Properties icon of Account name Field.

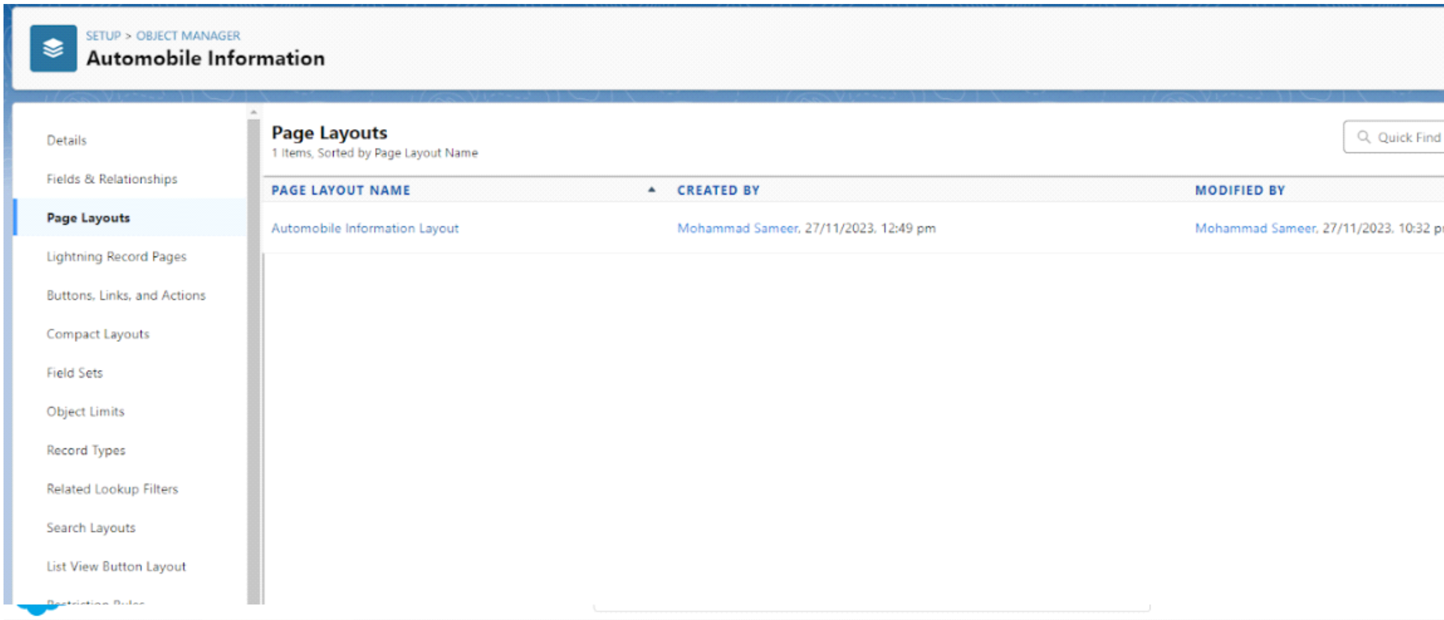

Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Opportunity
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Scoping Rules
Triggers
Flow Triggers
Validation Rules
Save
Quick Save
Preview As...
Cancel
Undo
Redo
Layout Properties
Fields
Buttons
Custom Links
Quick Actions
Mobile & Lightning Actions
Quick Find
Field Name
Opportunity Detail
Opportunity Information
Account Name
Sample Text
Properties

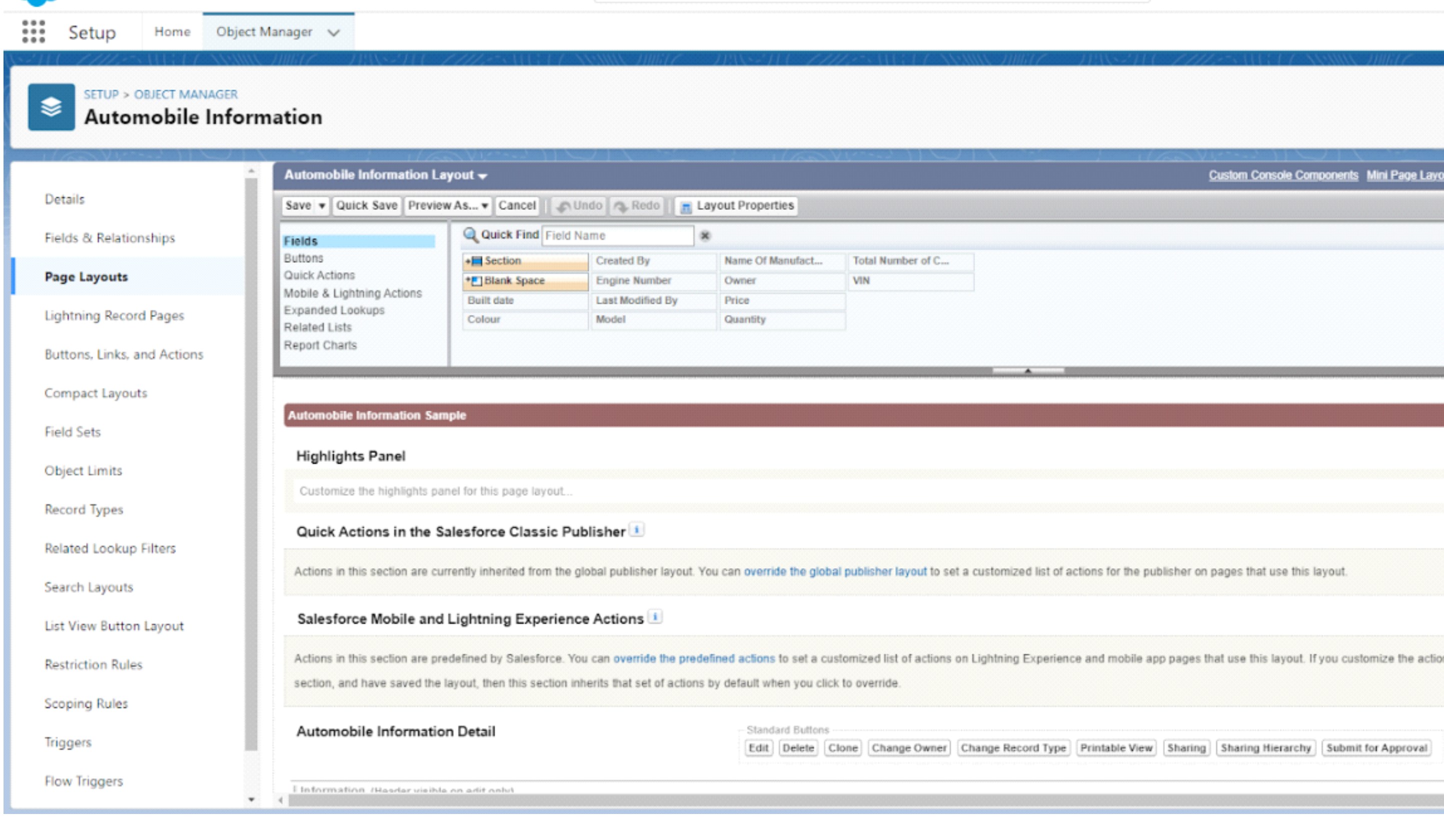

New Note
New Event
Link
Poll
Question
Field Properties
Read-Only
Required
Account Name
OK
Cancel
Amount
₹123.45
Expected Revenue
₹123.45
Close Date
29/11/2023

Step 4: check the Required box for Account name and click on Ok.
Step 5: Click on Save.

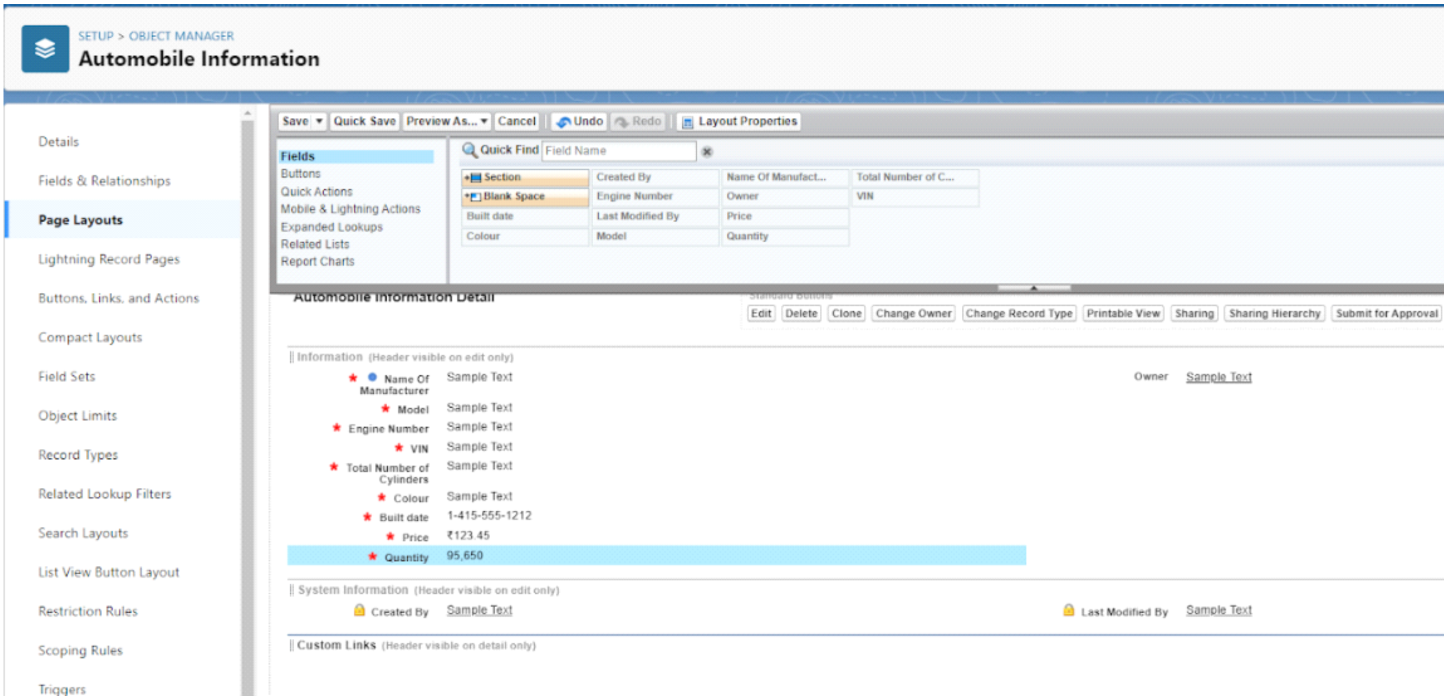
Edit The Page Layout For Automobiles Information

Step 1: Go to Setup >> Click on Object Manager >> On the search bar, select Automobile Information. You can notice Page Layouts on the left panel
Step 2: Click on Page Layouts. Click on ‘Automobile Information Layout’.

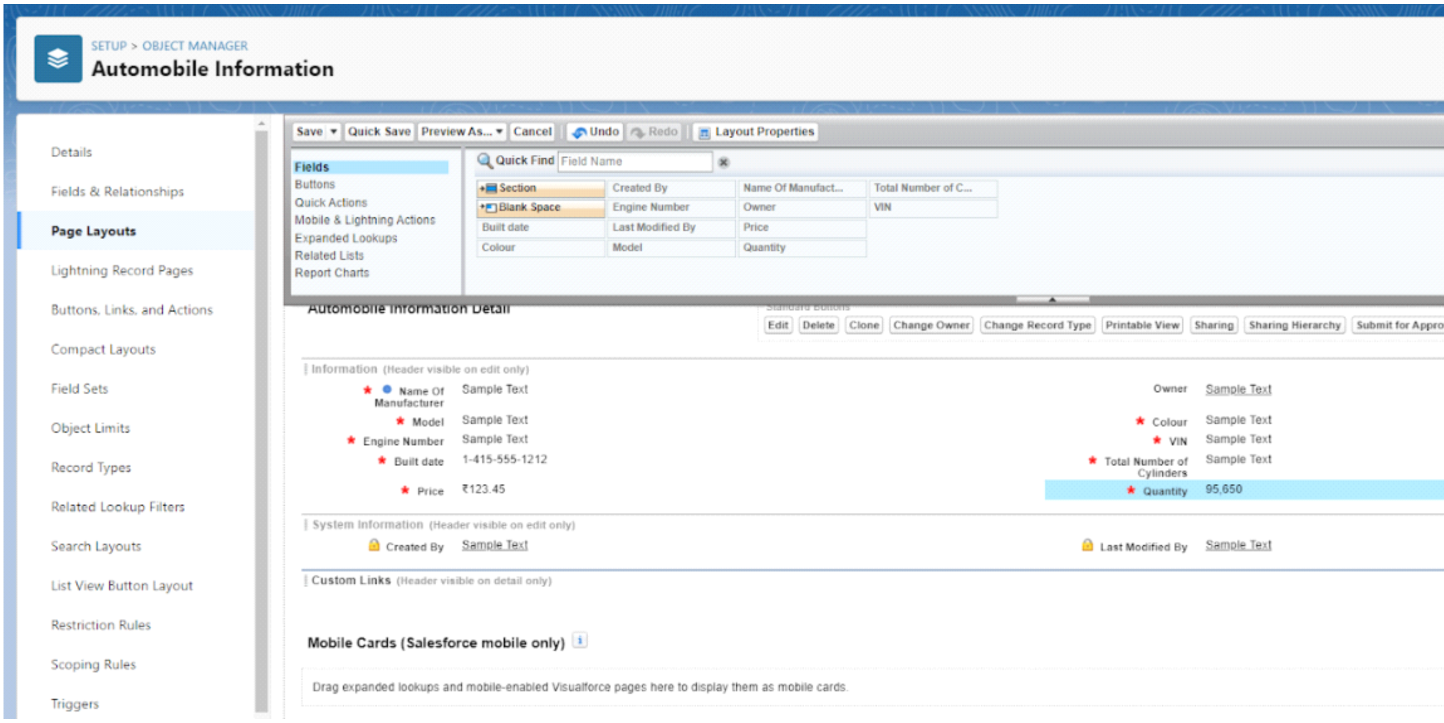




Step 3: Just Go for each one field of Automobile Information Object, Click on Gear Icon and mark as Required just as Done for Above Account Object. After required is done it will show the red color as given in below image.



Step 4 : Adjust the Fields as given below for A good looking view.



Step 5 : Click on Save.

Apex Trigger

Opportunity Automobile Quantity

UseCase : Whenever Opportunity Closed won Than Neglect / Minus the Quantity From Automobile Information on the Bases of Opportunity Automobile quantity.

- Login to the respective trailhead account and navigate to the gear icon in the top right corner.
- Click on the Developer console. Now you will see a new console window.
- In the toolbar, you can see FILE. Click on it and navigate to new and create New apex class.

- Name the class as “OpportunityHandlerClass ”.

```
public class OpportunityHandlerClass {

    public static void opportunityAutomobileQuantity(List<Opportunity> LstOpportunity, Map<Id,Opportunity> OldMapOp
        set<Id> opportunityIds = new set<Id>();
        for(Opportunity opp : LstOpportunity){
            if(opp.StageName =='Closed Won' ){
                opportunityIds.add(opp.Id);
            }
        }
```

```
        set<Id> opportunityIds = new set<Id>();
        for(Opportunity opp : LstOpportunity){
            if(opp.StageName =='Closed Won' ){
                opportunityIds.add(opp.Id);
            }
        }
        Map<Id,Opportunity_Automobile__c> lstOpportunityAutomobile =new Map<Id,Opportunity_Automobile__c>([SELECT Id, Opportunity__c, Automobile__c, Quan
                                                                                                            FROM Opportunity_Automobile__c Where Opportuni

        set<Id> AutoInformationIds = new set<Id>();
        for(Opportunity_Automobile__c OppAuto: lstOpportunityAutomobile.values()){
            if(OppAuto.Automobile__c != null){
                AutoInformationIds.add(OppAuto.Automobile__c);
            }
        }
        List<Automobile_Information__c> lstAutomobileInfomation = new List<Automobile_Information__c>();
        Map<Id,Automobile_Information__c> MapAutomobileInformation = New Map<Id,Automobile_Information__c>([SELECT Quantity__c, Price__c, Name, Id
                                                                                                             FROM Automobile_Information__c
                                                                                                             WHERE Id IN: AutoInformationIds]);
        For(Opportunity_Automobile__c AutoOpp : lstOpportunityAutomobile.Values()){
            decimal num = 0;
            if(AutoOpp.Automobile__c == MapAutomobileInformation.get(AutoOpp.Automobile__c).Id && OldMapOpportunity.get(AutoOpp.Opportunity__c).stagename

                num = MapAutomobileInformation.get(AutoOpp.Automobile__c).Quantity__c- AutoOpp.Quantity__c;
                MapAutomobileInformation.get(AutoOpp.Automobile__c).quantity__c = num;
                lstAutomobileInfomation.add(MapAutomobileInformation.get(AutoOpp.Automobile__c));
            }
        }
        If(!lstAutomobileInfomation.IsEmpty()){
            update lstAutomobileInfomation;
        }


    }
}
```

Code:

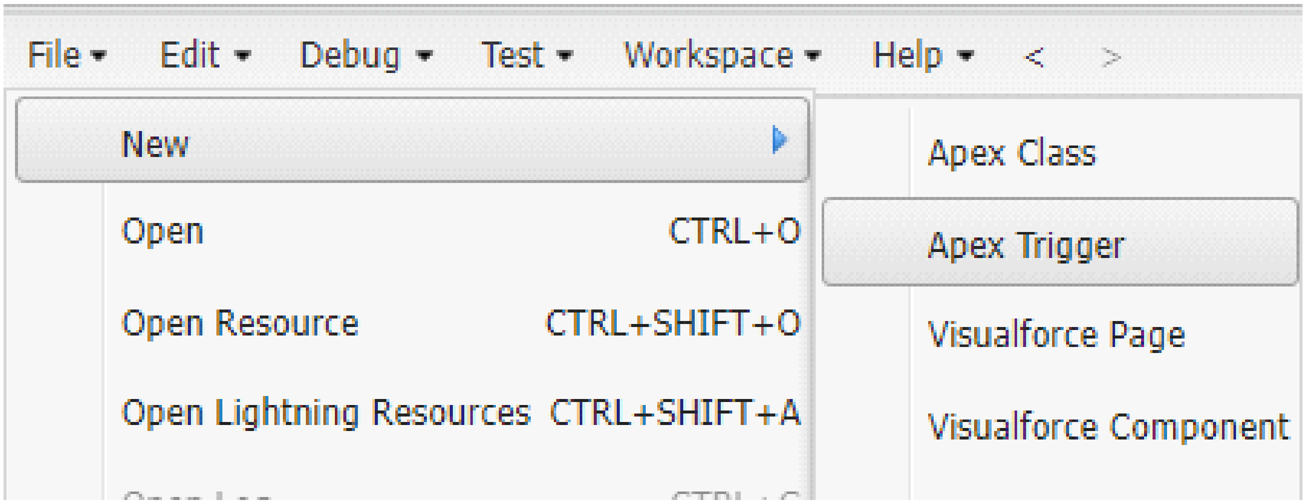
```
public class OpportunityHandlerClass {

    public static void opportunityAutomobileQuantity(List<Opportunity> LstOpportunity,
Map<Id,Opportunity> OldMapOpportunity){
        set<Id> opportunityIds = new set<Id>();
        for(Opportunity opp : LstOpportunity){
            if(opp.StageName =='Closed Won' ){
                opportunityIds.add(opp.Id);
            }
```

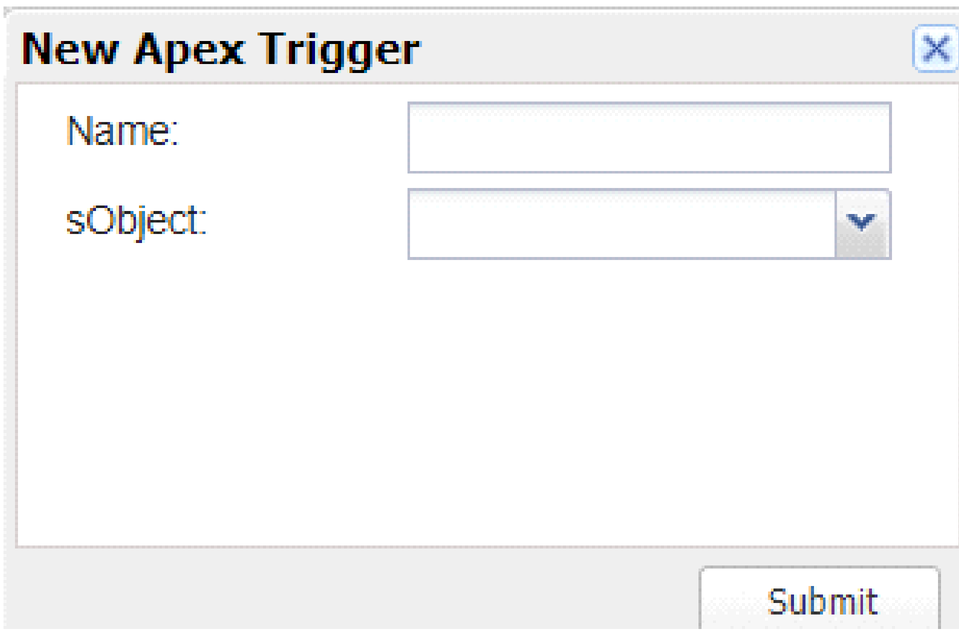
```
        }
        Map<Id,Opportunity_Automobile__c> lstOpportunityAutomobile =new
Map<Id,Opportunity_Automobile__c>([SELECT Id, Opportunity__c, Automobile__c, Quantity__c,
Unit_Price__c, Total_Price__c FROM Opportunity_Automobile__c Where Opportunity__c IN:
opportunityIds]);

        set<Id> AutoInformationIds = new set<Id>();
        for(Opportunity_Automobile__c OppAuto: lstOpportunityAutomobile.values()){
            if(OppAuto.Automobile__c != null){
                AutoInformationIds.add(OppAuto.Automobile__c);
            }
        }
        List<Automobile_Information__c> lstAutomobileInfomation = new
List<Automobile_Information__c>();
        Map<Id,Automobile_Information__c> MapAutomobileInformation = New
Map<Id,Automobile_Information__c>([SELECT Quantity__c, Price__c, Name, Id FROM
Automobile_Information__c WHERE Id IN: AutoInformationIds]);
        For(Opportunity_Automobile__c AutoOpp : lstOpportunityAutomobile.Values()){
            decimal num = 0;
            if(AutoOpp.Automobile__c == MapAutomobileInformation.get(AutoOpp.Automobile__c).Id &&
OldMapOpportunity.get(AutoOpp.Opportunity__c).stagename != 'Closed Won'){

                num = MapAutomobileInformation.get(AutoOpp.Automobile__c).Quantity__c-
AutoOpp.Quantity__c;
                MapAutomobileInformation.get(AutoOpp.Automobile__c).quantity__c = num;
                lstAutomobileInfomation.add(MapAutomobileInformation.get(AutoOpp.Automobile__c));
            }
        }
        If(!lstAutomobileInfomation.IsEmpty()){
            update lstAutomobileInfomation;
        }


    }
}
```

Trigger Handler :

How to create a new trigger :

- While still in the account, navigate to the gear icon in the top right corner.
- Click on developer console and you will be navigated to a new console window.
- Click on the File menu in the toolbar, and click on new? Trigger.
- Enter the trigger name and the object to be triggered.
- Name : OpportunityTrigger
- sObject : Opportunity

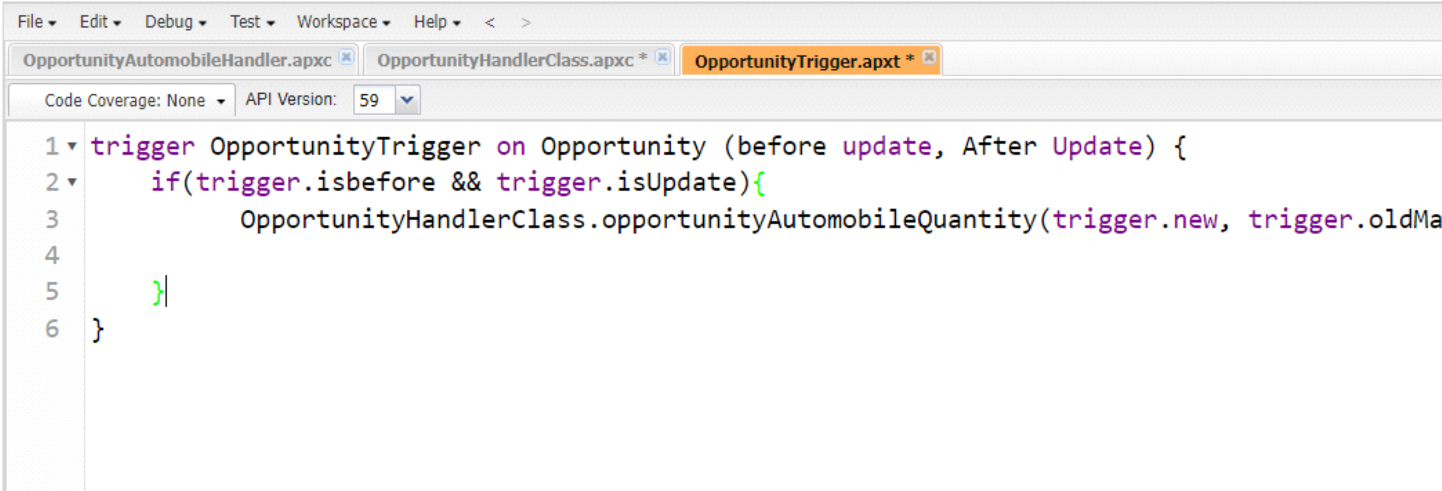




Syntax For creating trigger :
The syntax for creating trigger is :
Trigger [trigger name] on [object name](Before/After event){
//block of code
}

In this project , trigger is called whenever the particular records sum exceed the threshold i.e minimum business requirement value. Then the code in the trigger will get executed.

- Trigger for Opportunity Object.



Code:

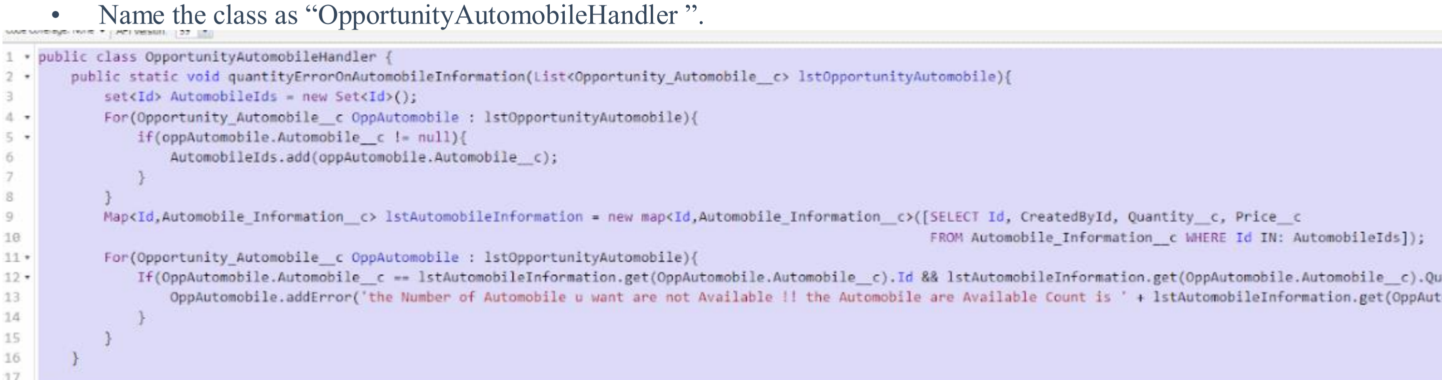
```
trigger OpportunityTrigger on Opportunity (before update, After Update) {
    if(trigger.isbefore && trigger.isUpdate){
        OpportunityHandlerClass.opportunityAutomobileQuantity(trigger.new, trigger.oldMap);

    }
}
```

Opportunity-Automobile Error

UseCase : If Quantity of Automobile is Zero or Less than The Quantity from The Opportunity-Automobile Than Throw an error .

Login to the respective trailhead account and navigate to the gear icon in the top right corner.

- Click on the Developer console. Now you will see a new console window.
- In the toolbar, you can see FILE. Click on it and navigate to new and create New apex class.
- Name the class as “OpportunityAutomobileHandler ”.



Code:

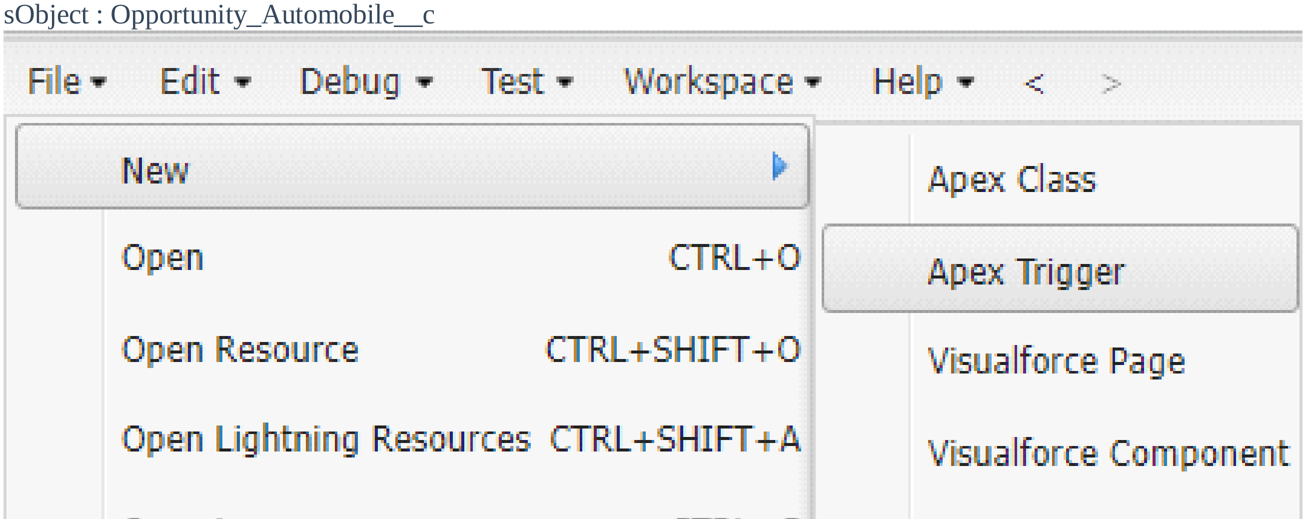
```
public class OpportunityAutomobileHandler {
    public static void quantityErrorOnAutomobileInformation(List<Opportunity_Automobile__c>
lstOpportunityAutomobile){
```

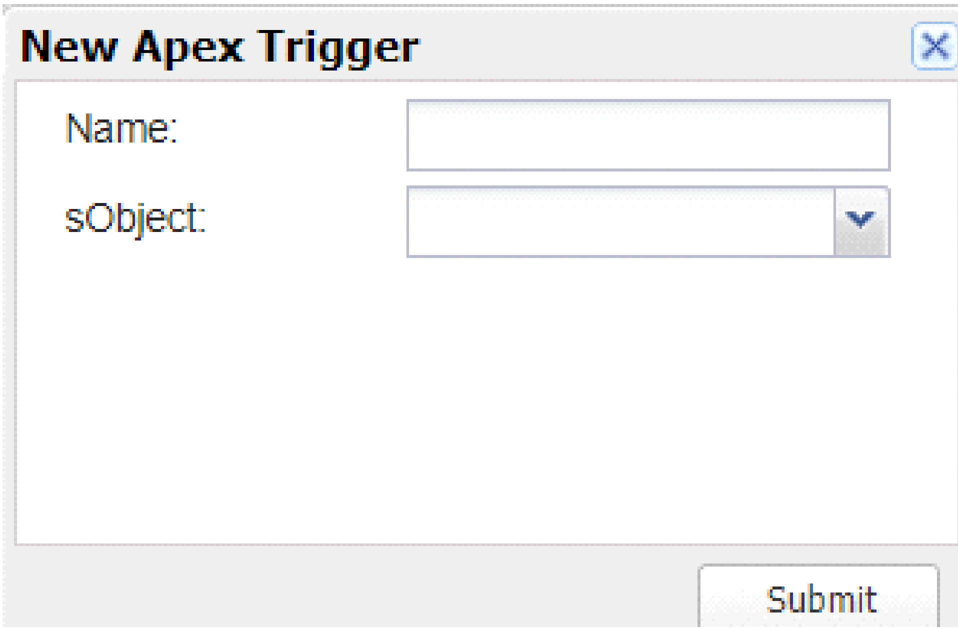
```
        set<Id> AutomobileIds = new Set<Id>();
        For(Opportunity_Automobile__c OppAutomobile : lstOpportunityAutomobile){
            if(oppAutomobile.Automobile__c != null){
                AutomobileIds.add(oppAutomobile.Automobile__c);
            }
        }
        Map<Id,Automobile_Information__c> lstAutomobileInformation = new
map<Id,Automobile_Information__c>([SELECT Id, CreatedById, Quantity__c, Price__c FROM
Automobile_Information__c WHERE Id IN: AutomobileIds]);
        For(Opportunity_Automobile__c OppAutomobile : lstOpportunityAutomobile){
            If(OppAutomobile.Automobile__c ==
lstAutomobileInformation.get(OppAutomobile.Automobile__c).Id &&
lstAutomobileInformation.get(OppAutomobile.Automobile__c).Quantity__c < OppAutomobile.Quantity__c){
                OppAutomobile.addError('the Number of Automobile u want are not Available !! the Automobile
are Available Count is ' + lstAutomobileInformation.get(OppAutomobile.Automobile__c).Quantity__c );
            }
        }
    }

}
```

Trigger Handler :

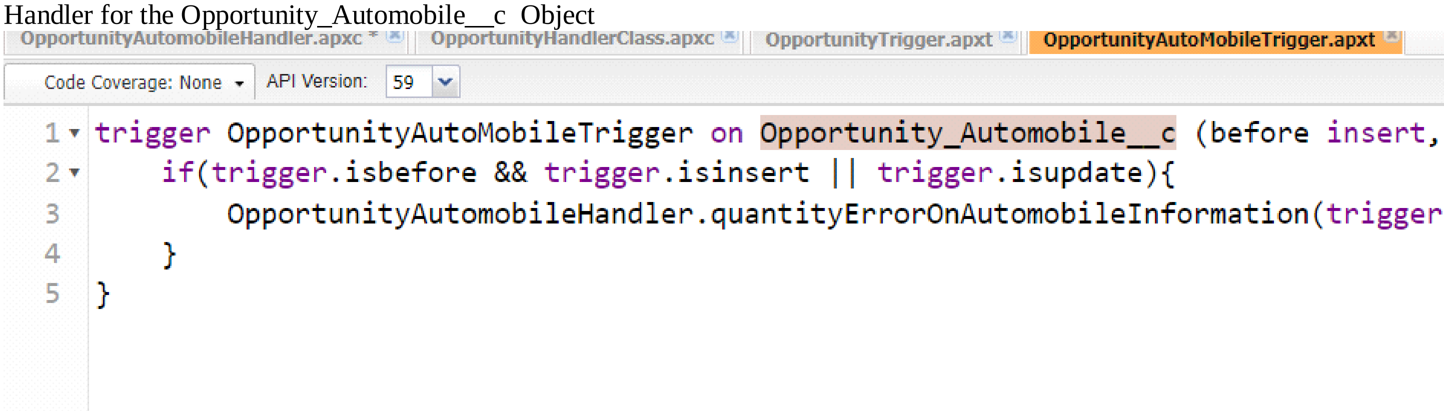
How to create a new trigger :

- While still in the trailhead account, navigate to the gear icon in the top right corner.
- Click on developer console and you will be navigated to a new console window.
- Click on the File menu in the toolbar, and click on new? Trigger.
- Enter the trigger name and the object to be triggered.
- Name : OpportunityAutoMobileTrigger
- sObject : Opportunity_Automobile__c





Trigger :
Handler for the Opportunity_Automobile__c Object



Code:

```
trigger OpportunityAutoMobileTrigger on Opportunity_Automobile__c (before insert, before Update) {
   if(trigger.isbefore && trigger.isinsert || trigger.isupdate){
      OpportunityAutomobileHandler.quantityErrorOnAutomobileInformation(trigger.new);
   }
}
```

Invoice Creation Trigger

UseCase : Whenever an opportunity is Closed won then create the Invoice on the Bases of Opportunity Automobile Data.
Login to the respective trailhead account and navigate to the gear icon in the top right corner.

- Click on the Developer console. Now you will see a new console window.

- In the toolbar, you can see FILE. Click on it and navigate to new and create New apex class.
- Name the class as “InvoiceCreation”.

```
public class InvoiceCreation {
    public static void OpportunityClosedwonInvoiceGeneration(List<Opportunity> lstOpportunity, Map<Id,Opportunity>OldMapOpportunity){
        set<Id> oppIds = new Set<Id>();
        For(Opportunity opp : lstOpportunity){
            if(Opp.StageName == 'Closed Won' && OldMapOpportunity.get(opp.Id).StageName != opp.StageName){
                oppIds.add(opp.Id);
            }
        }
        List<Opportunity_Automobile__c> lstOpportunityAutomobile = [SELECT Unit_Price__c, Total_Price__c, Automobile__c, Quantity__c,Opportunity__c, Id FROM Opportun
        List<Invoice__c> lstInvoice = new List<Invoice__c>();
        For(Opportunity_Automobile__c oppAuto : lstOpportunityAutomobile){
            Invoice__c i = new Invoice__c();
            i.Quantity__c = oppAuto.Quantity__c;
            i.Unit_Price__c = oppAuto.Unit_Price__c;
            i.Total_Price__c = oppAuto.Total_Price__c;
            i.Purchase_Date__c = date.today();
            i.Opportunity__c = oppAuto.Opportunity__c;
            lstInvoice.add(i);
        }
        if(!lstInvoice.isempty()){
            insert lstInvoice;
        }
    }
}
```

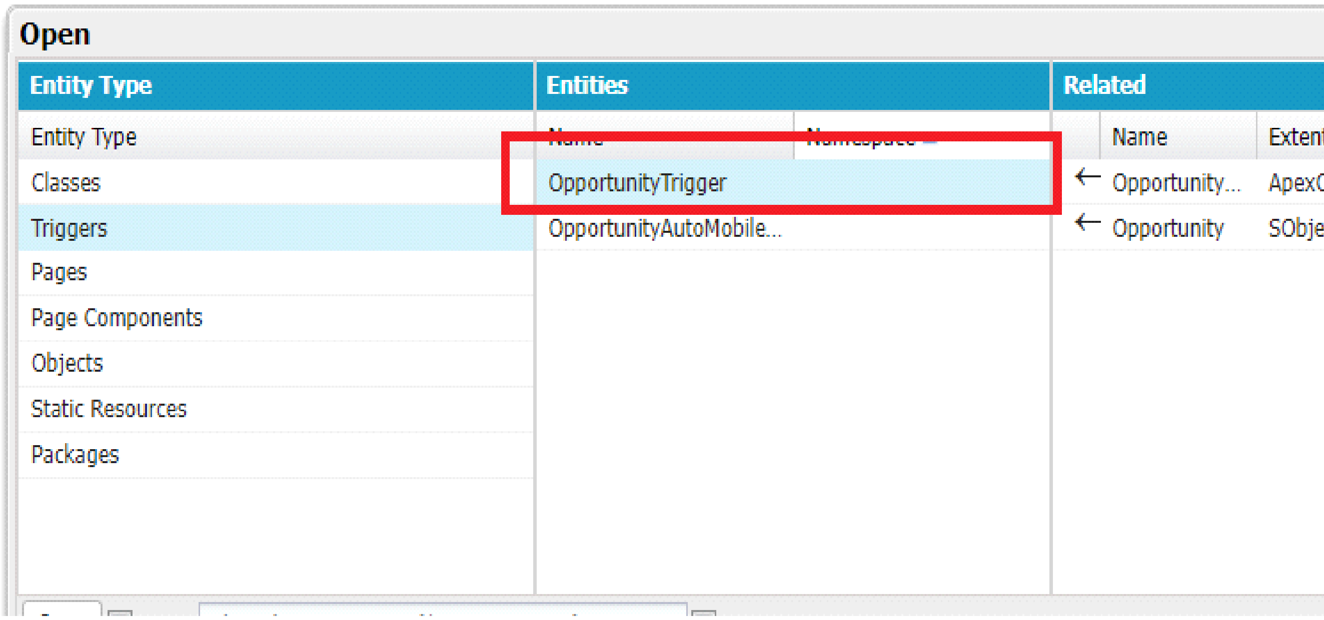
Code:

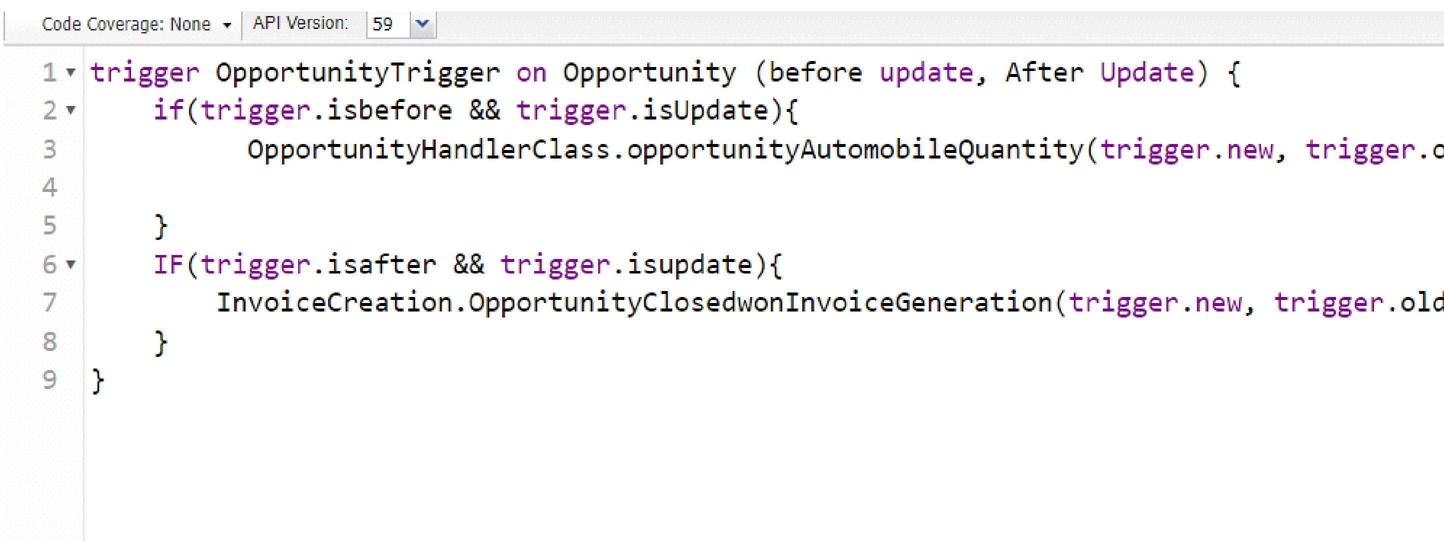
```
public class InvoiceCreation {
   public static void OpportunityClosedwonInvoiceGeneration(List<Opportunity> lstOpportunity,
Map<Id,Opportunity>OldMapOpportunity){
       set<Id> oppIds = new Set<Id>();
       For(Opportunity opp : lstOpportunity){
          if(Opp.StageName == 'Closed Won' && OldMapOpportunity.get(opp.Id).StageName !=
opp.StageName){
             oppIds.add(opp.Id);
          }
       }
       List<Opportunity_Automobile__c> lstOpportunityAutomobile = [SELECT Unit_Price__c,
Total_Price__c, Automobile__c, Quantity__c,Opportunity__c, Id FROM Opportunity_Automobile__c
WHERE Opportunity__c IN: oppIds];
       List<Invoice__c> lstInvoice = new List<Invoice__c>();
       For(Opportunity_Automobile__c oppAuto : lstOpportunityAutomobile){
          Invoice__c i = new Invoice__c();
          i.Quantity__c = oppAuto.Quantity__c;
          i.Unit_Price__c = oppAuto.Unit_Price__c;
          i.Total_Price__c = oppAuto.Total_Price__c;
          i.Purchase_Date__c = date.today();
          i.Opportunity__c = oppAuto.Opportunity__c;
          lstInvoice.add(i);
       }
       if(!lstInvoice.isempty()){
          insert lstInvoice;
       }
   }
}
```

Trigger Handler :

For this class we don’t need to create any trigger, we will call this Code in “Opportunity Trigger”.

- Go on files and click on open.
- Click on triggers.
- Double click on OpportunityTrigger.





Trigger:

```
trigger OpportunityTrigger on Opportunity (before update, After Update) {
   if(trigger.isbefore && trigger.isUpdate){
        OpportunityHandlerClass.opportunityAutomobileQuantity(trigger.new, trigger.oldMap);
   }
```

```
    IF(trigger.isafter && trigger.isupdate){
        InvoiceCreation.OpportunityClosedwonInvoiceGeneration(trigger.new, trigger.oldMap);
    }
}
```

Check Contact Role

UseCase : Whenever an opportunity is Going to Closed won then check it has the contact role or Not.
Login to the respective trailhead account and navigate to the gear icon in the top right corner.

- Click on the Developer console. Now you will see a new console window.
- In the toolbar, you can see FILE. Click on it and navigate to new and create New apex class.
- Name the class as “ContactRoleCheck ”.

```
public class ContactRoleCheck {
 public static void CheckcontactRoleonOpportunity(List<Opportunity> lstOpportunity, Map<Id,Opportunity>OldMapOpportunity)
        List<OpportunityContactRole> lstContactRole = [SELECT Id From OpportunityContactRole WHERE OpportunityId IN: OldM
        For(Opportunity opp : lstOpportunity){
            if(Opp.StageName == 'Closed Won' && OldMapOpportunity.get(opp.Id).StageName != opp.StageName){
                If(lstContactRole.isempty()){
                    opp.adderror('Please add contact Role on opportunity whenever Opportunity is Going to Closed Won.');
                }
            }
        }
    }
}
```

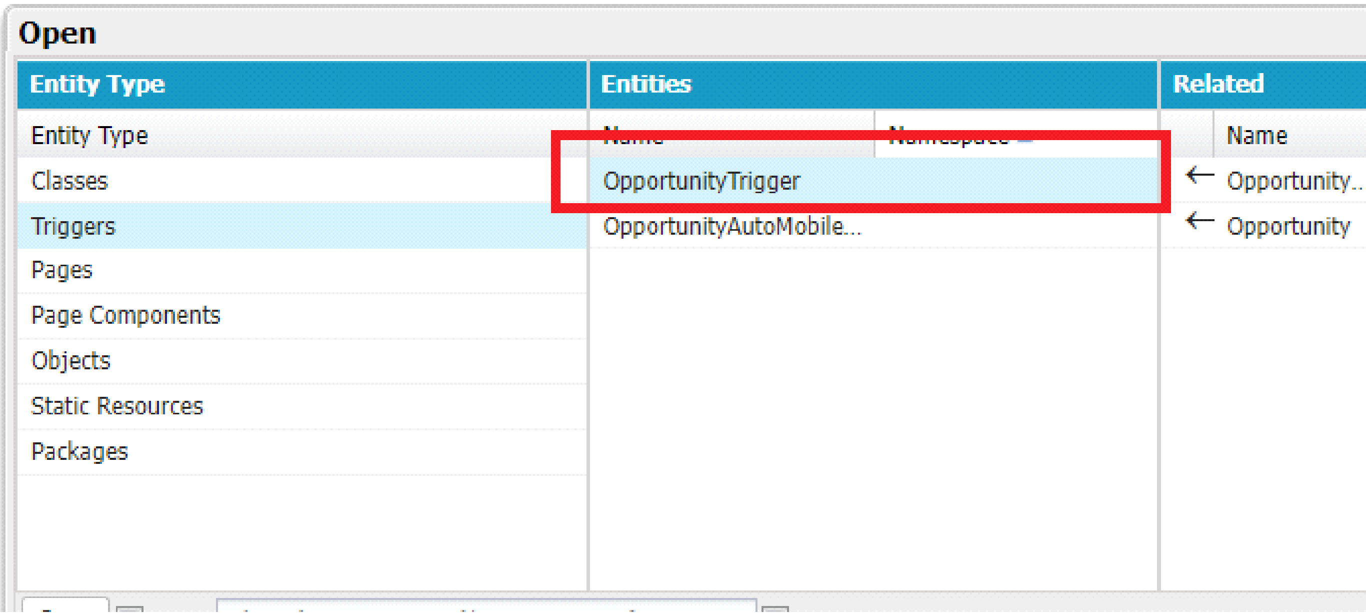
Trigger:

```
public class ContactRoleCheck {
 public static void CheckcontactRoleonOpportunity(List<Opportunity> lstOpportunity,
Map<Id,Opportunity>OldMapOpportunity){
        List<OpportunityContactRole> lstContactRole = [SELECT Id From OpportunityContactRole WHERE
OpportunityId IN: OldMapOpportunity.keyset()];
        For(Opportunity opp : lstOpportunity){
            if(Opp.StageName == 'Closed Won' && OldMapOpportunity.get(opp.Id).StageName !=
opp.StageName){
                If(lstContactRole.isempty()){
                    opp.adderror('Please add contact Role on opportunity whenever Opportunity is Going to Closed
Won.');
                }
            }
        }
    }
}
```

Trigger Handler :

For this class we don't need to create any trigger, we will call this Code in "Opportunity Trigger".

- Go on files and click on open.
- Click on triggers.
- Double click on OpportunityTrigger.



Trigger Code :

Code Coverage: None API Version: 59

```
trigger OpportunityTrigger on Opportunity (before update, After Update) {
    if(trigger.isbefore && trigger.isUpdate){
          OpportunityHandlerClass.opportunityAutomobileQuantity(trigger.new, trigg
        ContactRoleCheck.CheckcontactRoleonOpportunity(trigger.new, trigger.oldMap
    }
    IF(trigger.isafter && trigger.isupdate){
        InvoiceCreation.OpportunityClosedwonInvoiceGeneration(trigger.new, trigger
    }
}
```

Trigger:

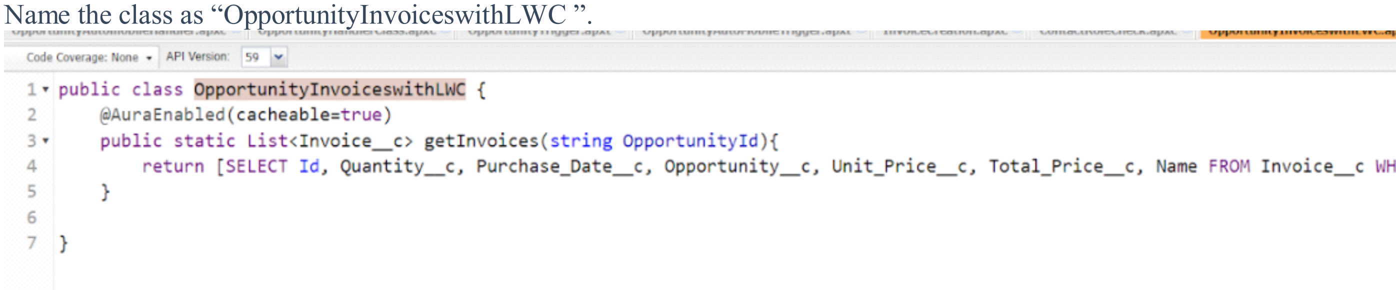
```
trigger OpportunityTrigger on Opportunity (before update, After Update) {
    if(trigger.isbefore && trigger.isUpdate){
          OpportunityHandlerClass.opportunityAutomobileQuantity(trigger.new, trigger.oldMap);
        ContactRoleCheck.CheckcontactRoleonOpportunity(trigger.new, trigger.oldMap);
    }
    IF(trigger.isafter && trigger.isupdate){
        InvoiceCreation.OpportunityClosedwonInvoiceGeneration(trigger.new, trigger.oldMap);
    }
}
```

LWC Component:

Create Apex Class To Get Invoices

- Login to the respective account and navigate to the gear icon in the top right corner.
- Click on the Developer console.

- Now you will see a new console window.
- In the toolbar, you can see FILE.
- Click on it and navigate to new and create New apex class.
- Name the class as “OpportunityInvoiceswithLWC ”.



Code:

```
public class OpportunityInvoiceswithLWC {
    @AuraEnabled(cacheable=true)
    public static List<Invoice__c> getInvoices(string OpportunityId){
        return [SELECT Id, Quantity__c, Purchase_Date__c, Opportunity__c, Unit_Price__c, Total_Price__c,
Name FROM Invoice__c WHERE Opportunity__c =: OpportunityId];
    }


}
```

Install Salesforce CLI

The Salesforce CLI is a powerful command line interface that simplifies development and build automation when working with your Salesforce org.
[Download and install Salesforce CLI]
To confirm that the Salesforce CLI is installed and working correctly, you can open a command prompt and type sfdx. This will display the version number of the Salesforce CLI that is currently installed on your system.

```
C:\Users\navee>sfdx
Salesforce CLI

VERSION
  sfdx-cli/7.182.1 win32-x64 node-v18.12.1

USAGE
  $ sfdx [COMMAND]

TOPICS
  alias    manage username aliases
  auth     authorize an org for use with the Sale
  config   configure the Salesforce CLI
  force    tools for the Salesforce developer
  info     access cli info from the command line
  plugins  add/remove/create CLI plug-ins
  version
```

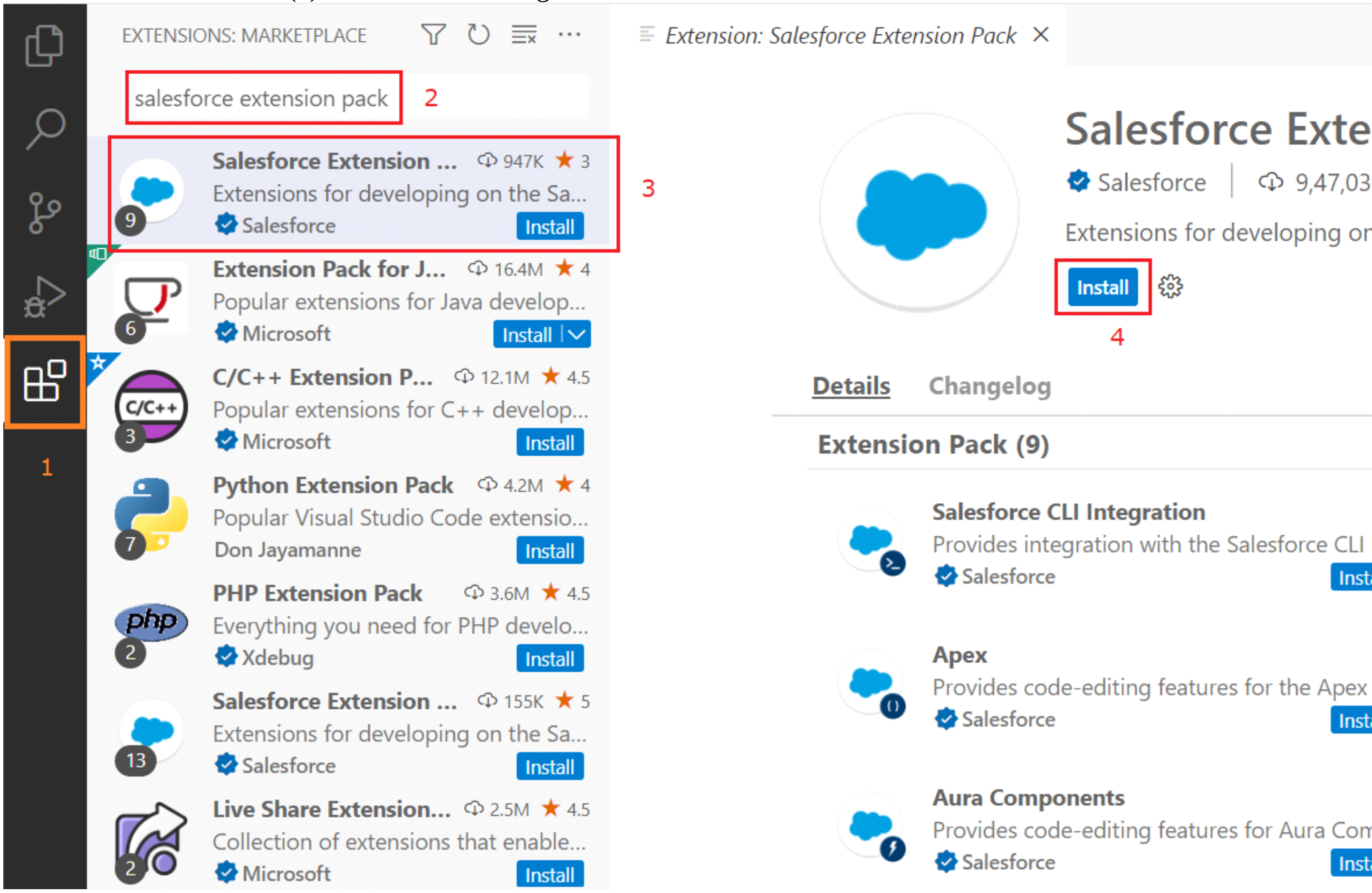
Install Microsoft VS Code

VS Code, or Visual Studio Code, is a free, open-source code editor developed by Microsoft. It is a lightweight, cross-platform code editor that provides features such as debugging, Git integration, and support for a wide range of programming languages.
[Download the version of the software]() that is compatible with your operating system and install it.
The following instructions are for Windows OS. Other operating systems may have slightly different steps.

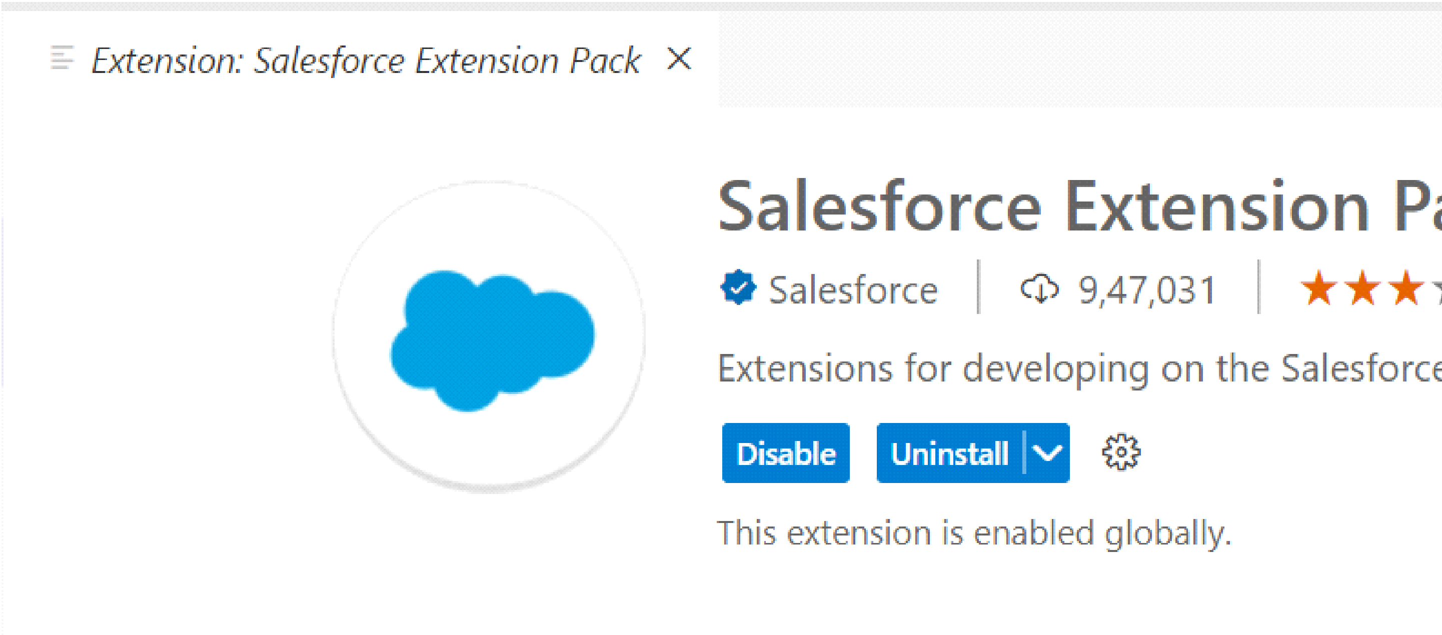
Install The Salesforce Extension Pack

In the VS Code,

1. go to extensions (1) as shown in the image below.
2. Search with the Salesforce extension pack (2) as shown in the image below.
3. select Salesforce Extension Pack from the list (3) as shown in the image below.
4. Click the Install button (4) as shown in the image below.



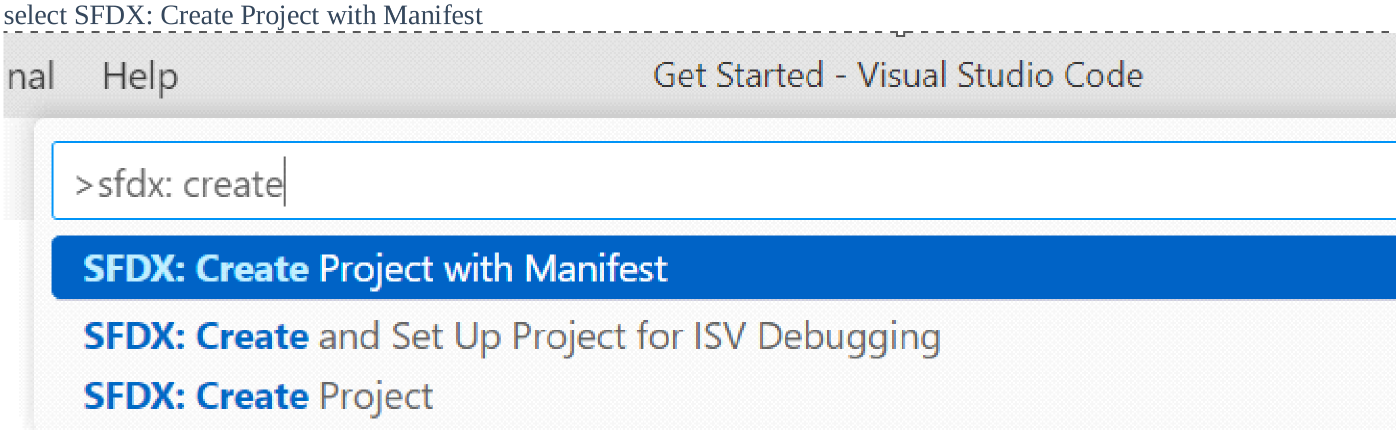
The extension pack is installed successfully



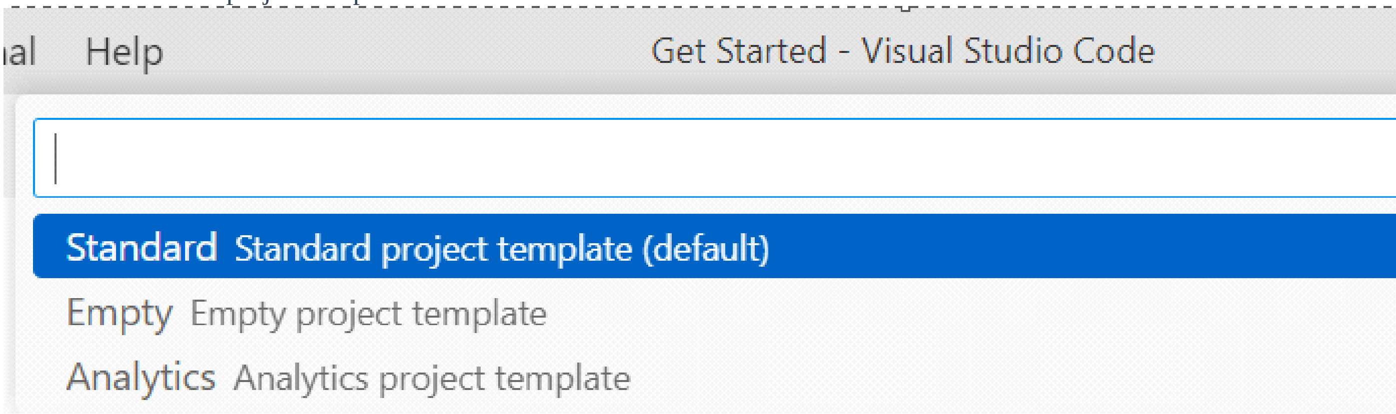
Install the Salesforce Extension Pack

Create A Project In VS Code

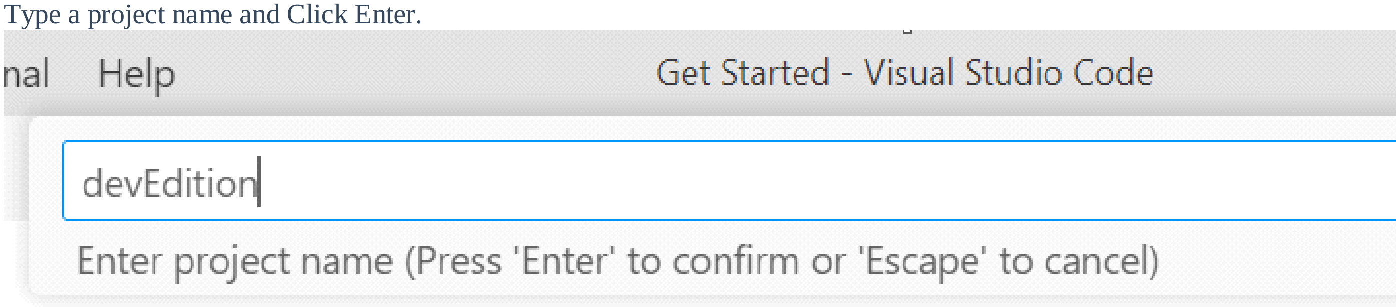
- Press CTRL + SHIFT + P, type sfdx: create
- select SFDX: Create Project with Manifest



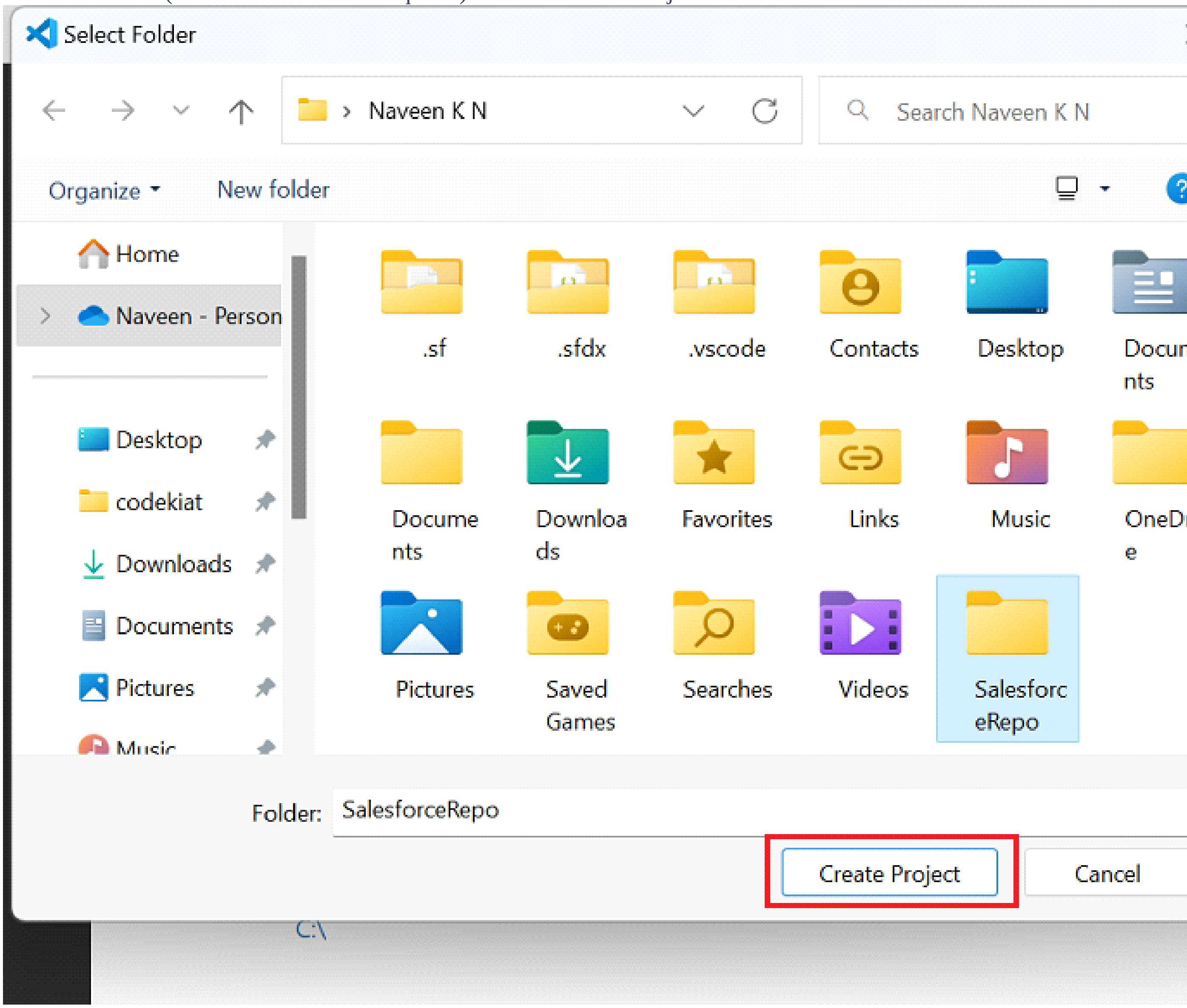
- Select the Standard project template



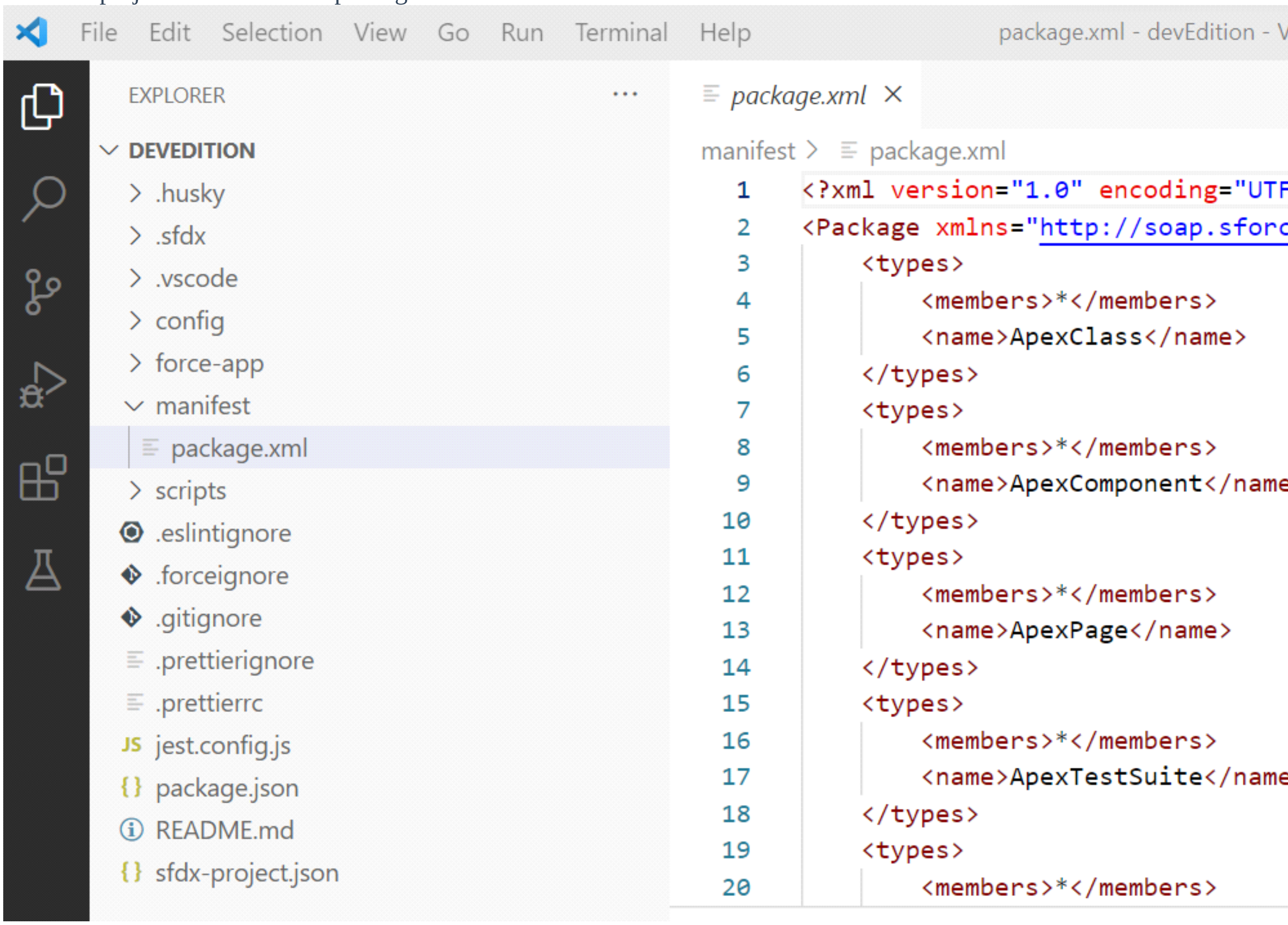
- Type a project name and Click Enter.



- Select the folder (create a new folder if required) and click Create Project



- The new project is created with package.xml



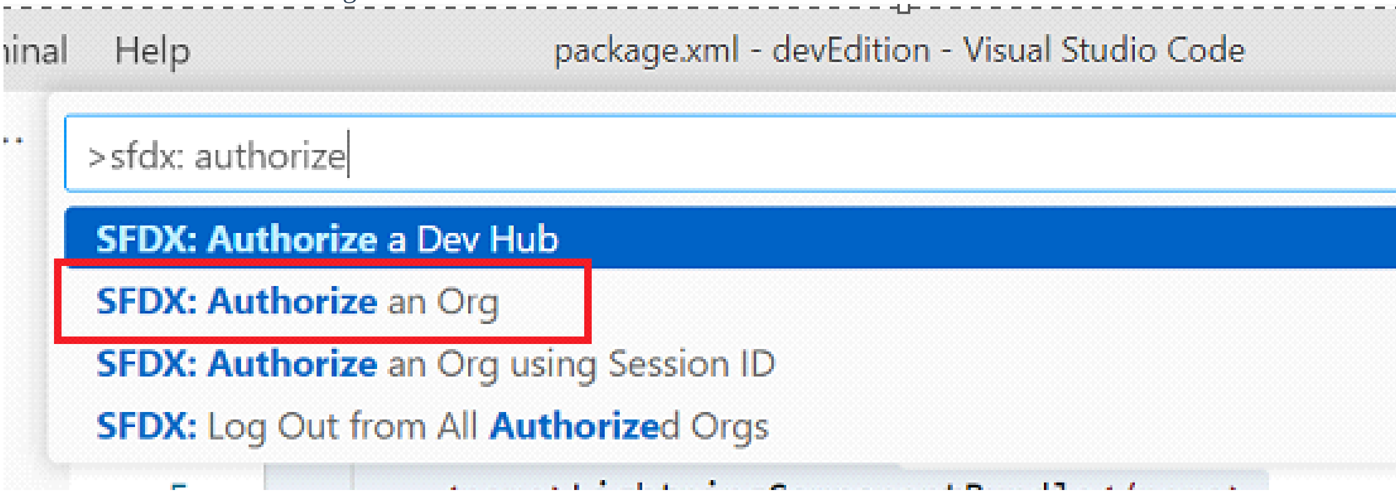
Default Package.xml contains various metadata types. I have updated Package.xml as shown below as we deal only with LWC in this article.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Package xmlns="http://soap.sforce.com/2006/04/metadata">
    <types>
        <members>*</members>
        <name>LightningComponentBundle</name>
    </types>
    <version>55.0</version>
</Package>
```

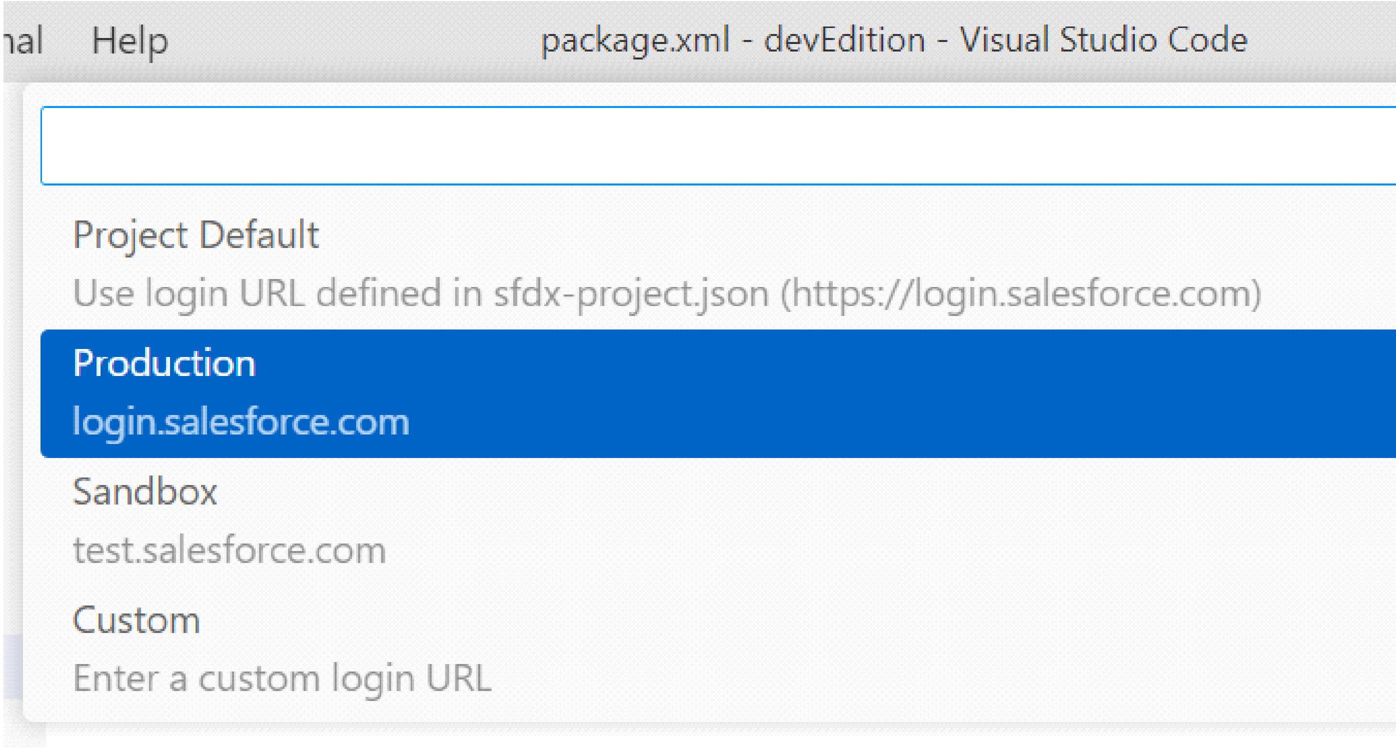
Authorize An Org

Establish a connection between the local project and the Salesforce instance to retrieve and deploy the components.

- Press CTRL + SHIFT + P, type sfdx: authorize.
- select SFDX: Authorize an Org from the list

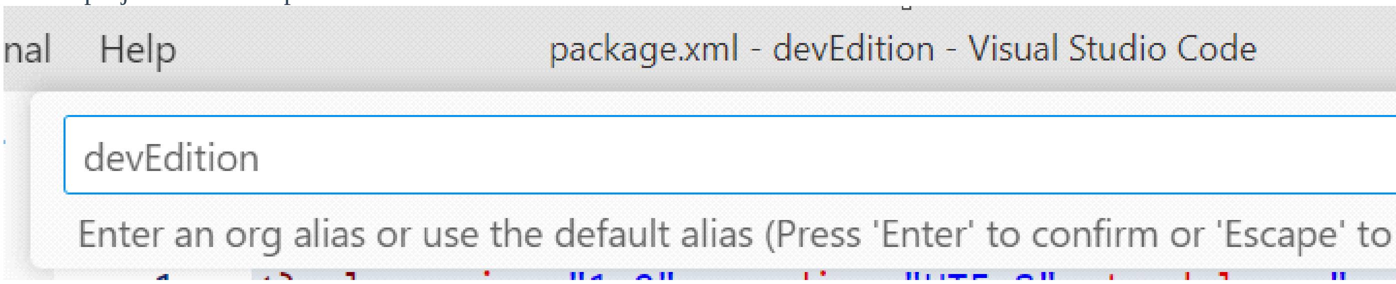


- Choose your Salesforce instance.
  For developer edition and production instances select
  Production.



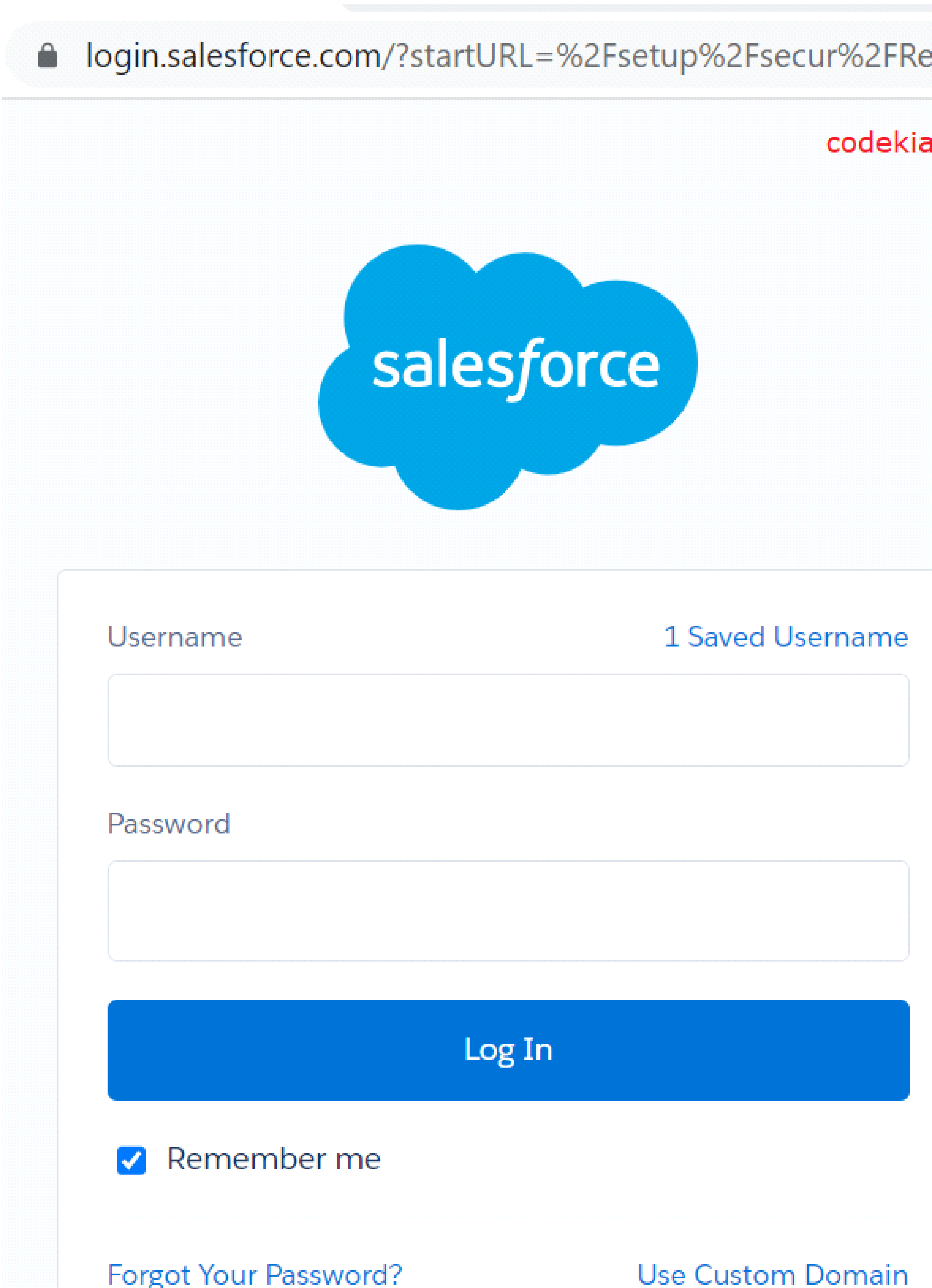
- For this demonstration, I used the developer edition, hence it is Production.

- Give a project name and press Enter



- The Salesforce login page opens in the browser.

- Enter the credentials and click Log In

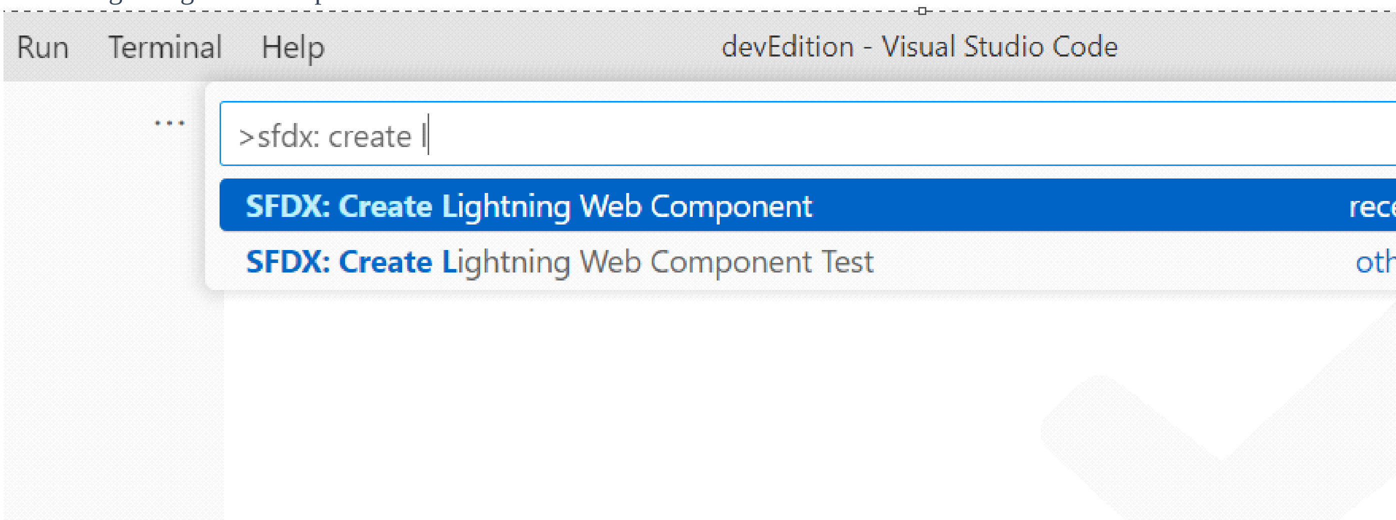

login.salesforce.com/?startURL=%2Fsetup%2Fsecur%2FRe
codekia
salesforce
Username
1 Saved Username
Password
Log In
Remember me
Forgot Your Password?
Use Custom Domain

1. It will be successfully authorized.

Create Lightning Web Component

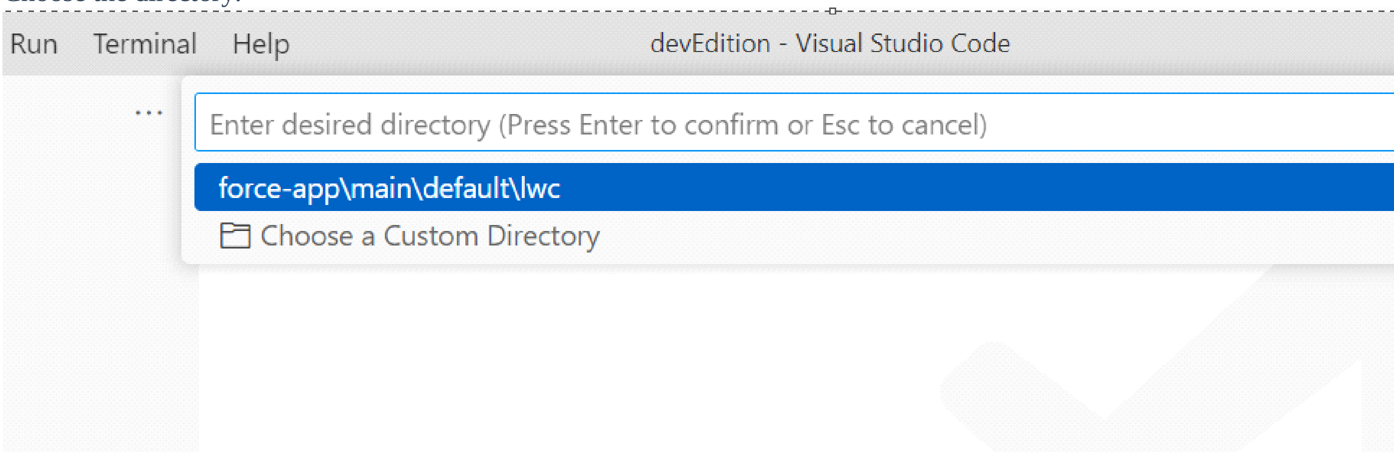
XML File :

- In the VS Code, press CTRL + SHIFT + P, type sfdx: create lightning in the search bar, and select SFDX: Create Lightning Web Component

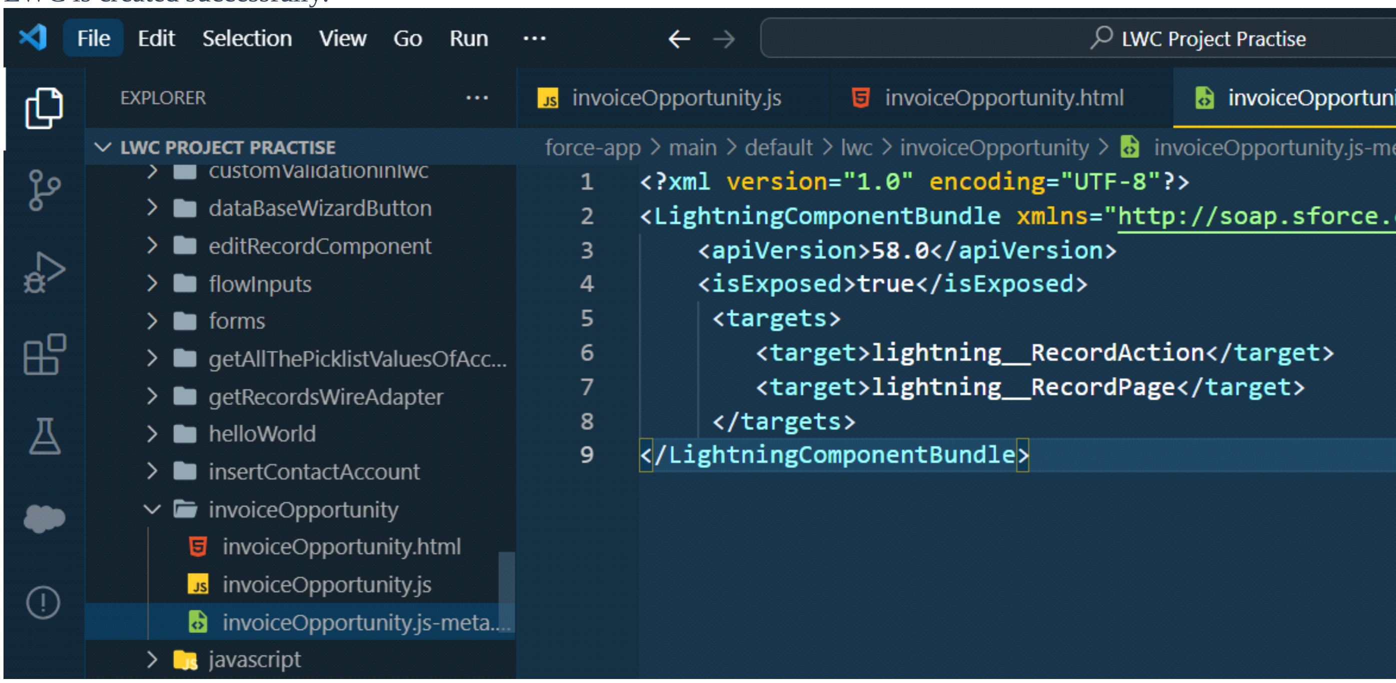


- Give the name “InvoiceOpportunity” and press Enter.

- Choose the directory.



- LWC is created successfully.



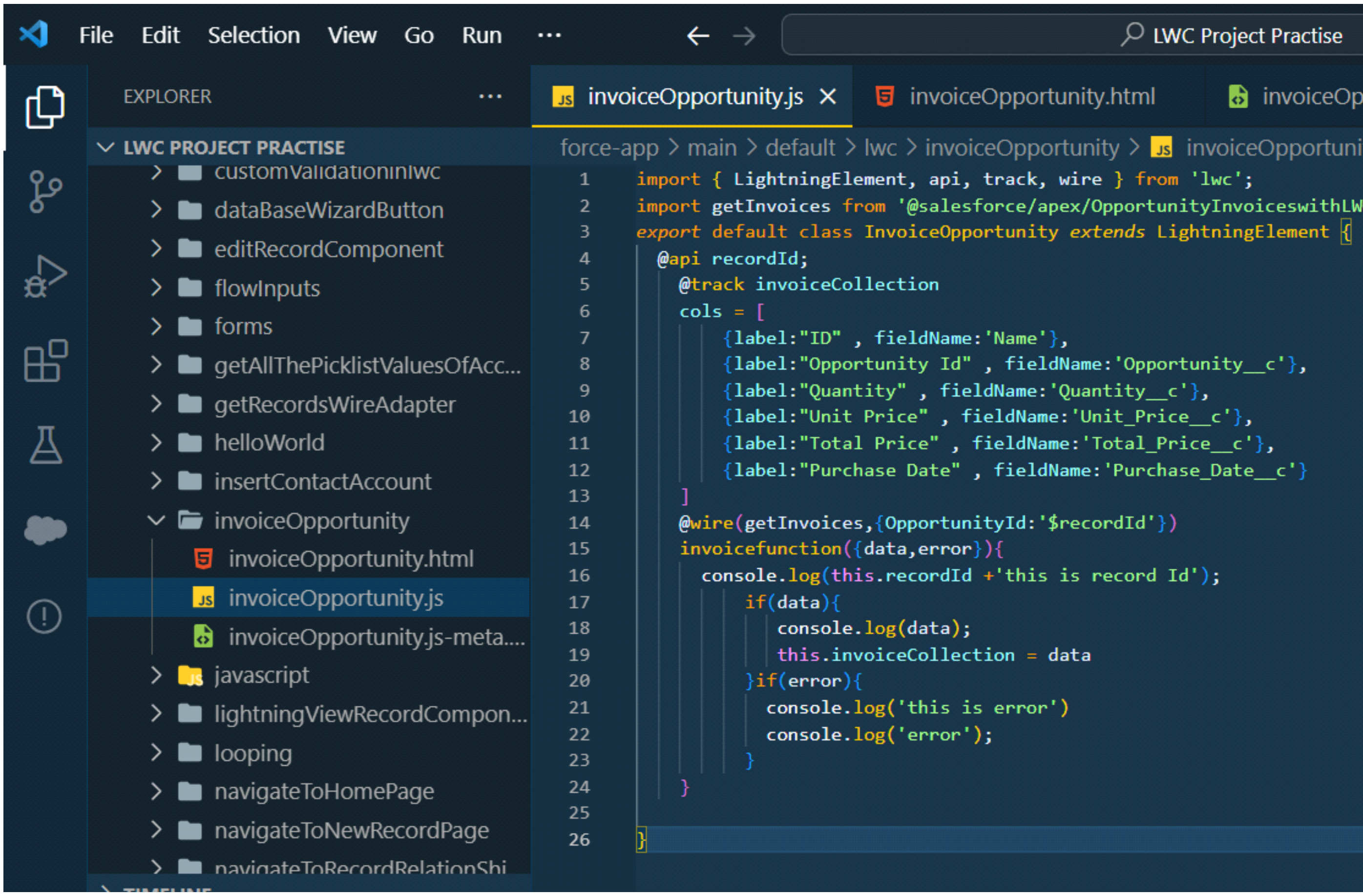
- Copy and paste the below-mentioned code in the InvoiceOpportunity.js-meta.xml and update the apiVersion tag with the latest API version.

XML File Code:

```
<?xml version="1.0" encoding="UTF-8"?>
<LightningComponentBundle xmlns="http://soap.sforce.com/2006/04/metadata">
    <apiVersion>58.0</apiVersion>
    <isExposed>true</isExposed>
     <targets>
        <target>lightning__RecordAction</target>
        <target>lightning__RecordPage</target>
     </targets>
</LightningComponentBundle>
```

JS File :

- Copy and paste the below-mentioned code in the InvoiceOpportunity.js and update the apiVersion tag with the latest API version.



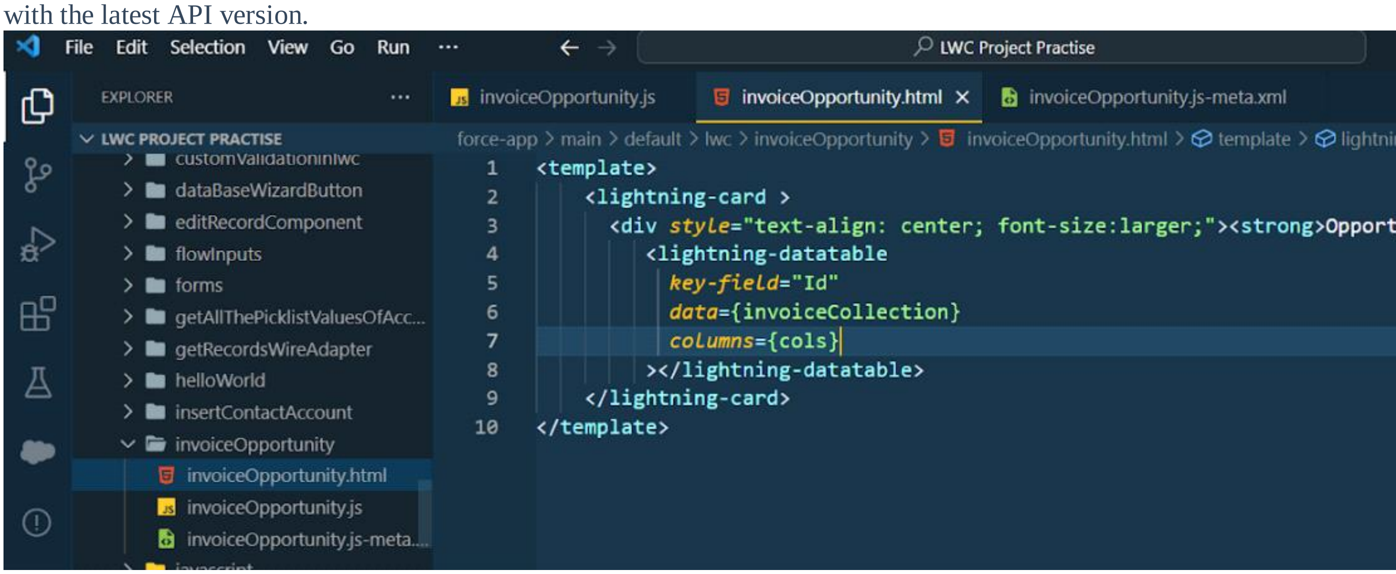
JS File Code :

```
import { LightningElement, api, track, wire } from 'lwc';
import getInvoices from '@salesforce/apex/OpportunityInvoiceswithLWC.getInvoices';
export default class InvoiceOpportunity extends LightningElement {
 @api recordId;
  @track invoiceCollection
  cols = [
      {label:"ID" , fieldName:'Name'},
      {label:"Opportunity Id" , fieldName:'Opportunity__c'},
      {label:"Quantity" , fieldName:'Quantity__c'},
      {label:"Unit Price" , fieldName:'Unit_Price__c'},
      {label:"Total Price" , fieldName:'Total_Price__c'},
      {label:"Purchase Date" , fieldName:'Purchase_Date__c'}
  ]
  @wire(getInvoices,{OpportunityId:'$recordId'})
```

```
    invoicefunction({data,error}){
      console.log(this.recordId +'this is record Id');
          if(data){
             console.log(data);
             this.invoiceCollection = data
          }if(error){
            console.log('this is error')
            console.log('error');
          }
    }
}
```

HTML File :

- Copy and paste the below-mentioned code in the InvoiceOpportunity.html and update the apiVersion tag with the latest API version.

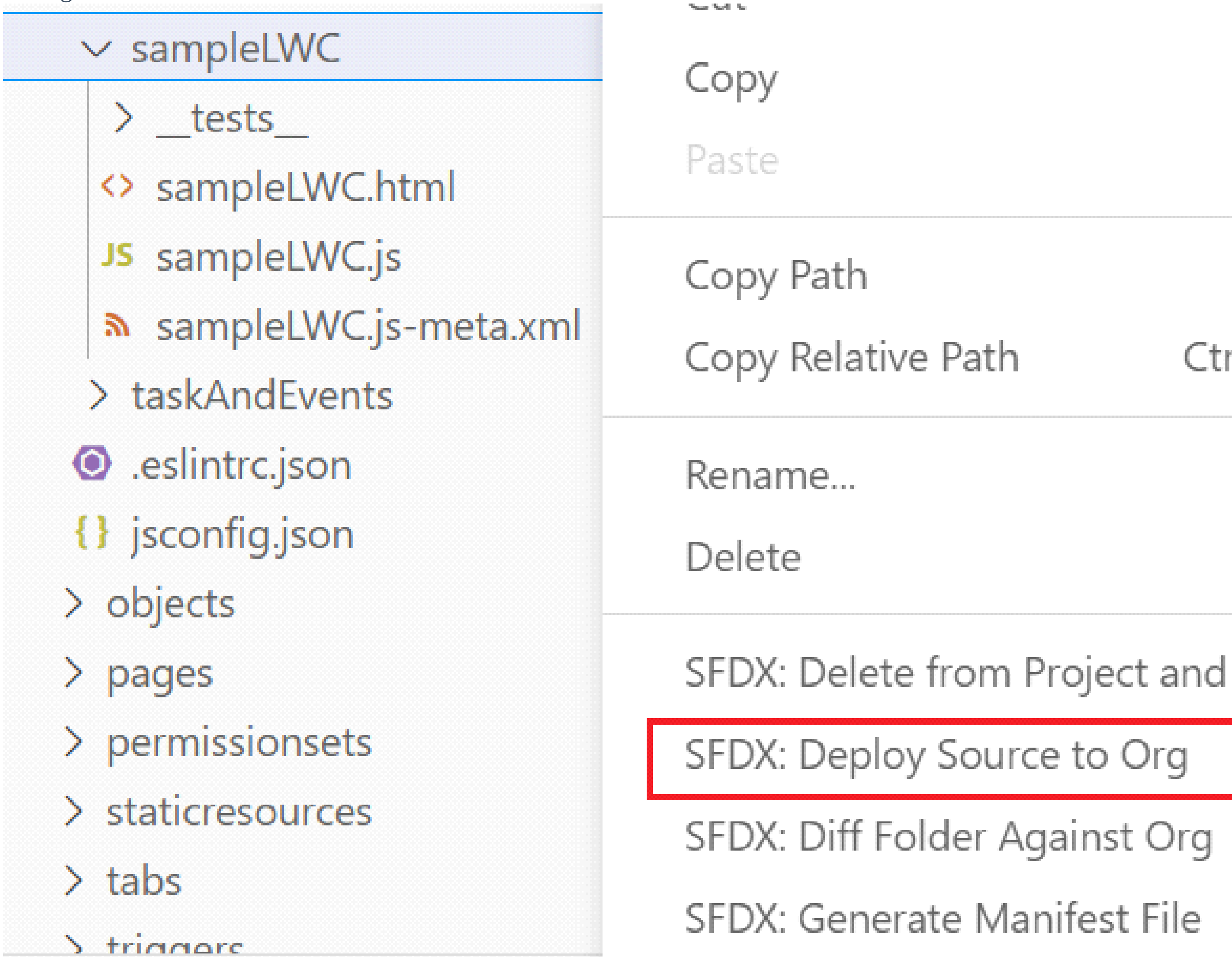


HTML File Code:

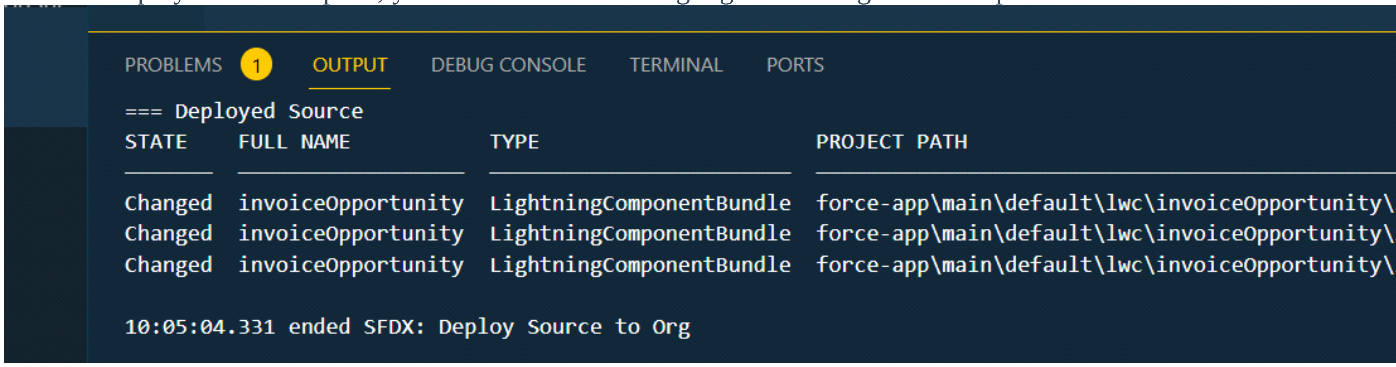
```
<template>
    <lightning-card >
      <div style="text-align: center; font-size:larger;"><strong>Opportunity Ivoices</strong></div>
         <lightning-datatable
           key-field="Id"
           data={invoiceCollection}
           columns={cols}
         ></lightning-datatable>
    </lightning-card>
</template>
```

Deploy Component:

- Right-click on the component folder, and select SFDX: Deploy Source to Org to deploy the component to the org.

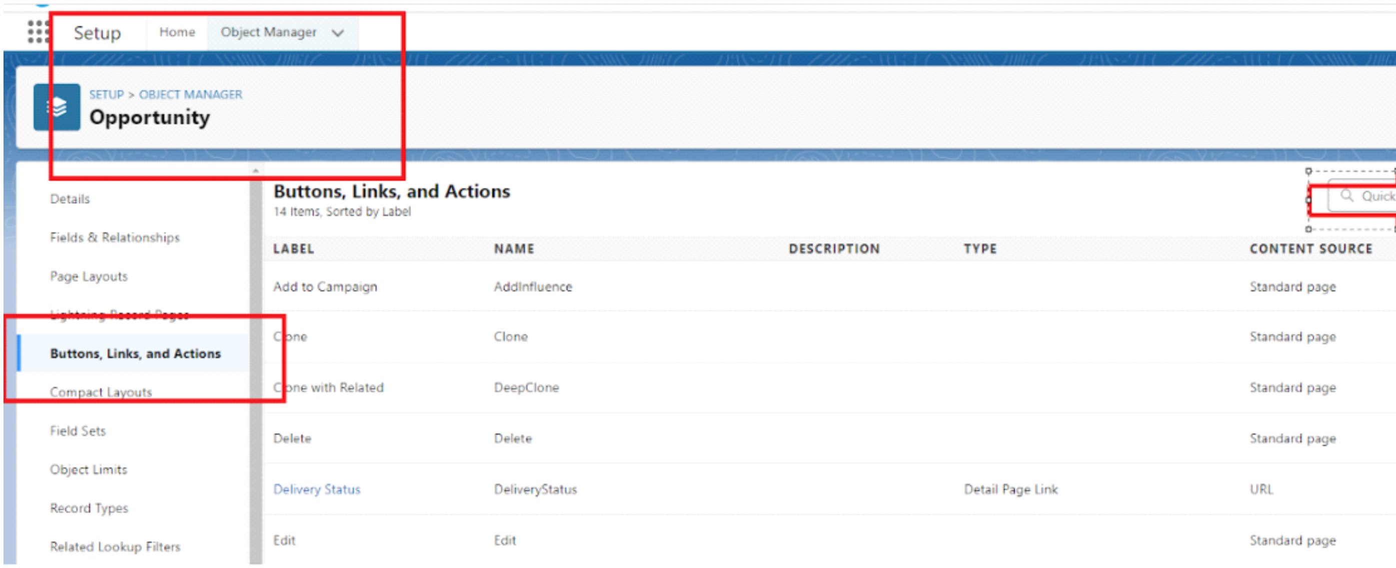


- Once the deployment is complete, you will see the below-highlighted message in the output tab

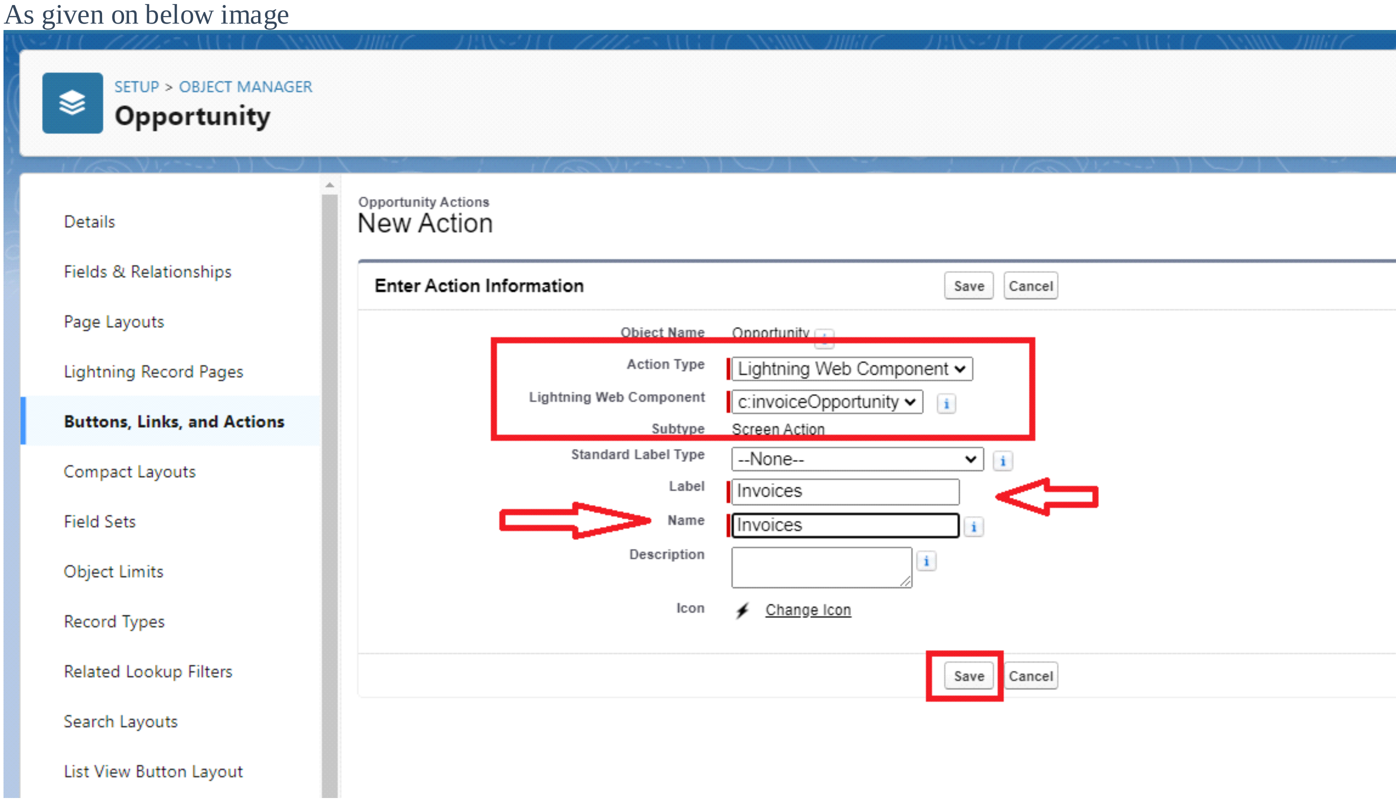


Create Button To Add On Opportunity

- To add the newly created component to the view, Go to Salesforce Setup
- Click on Object Manager
- Search Opportunity and Click on it .
- click on Button Links and Action.
- click on the New Action.



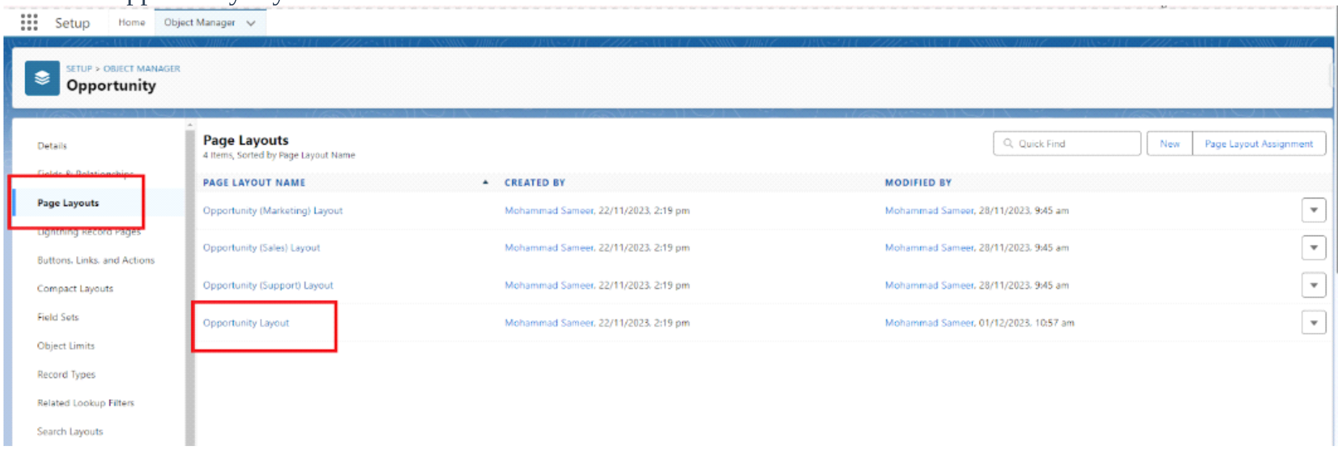
- Select Action type as Lightning Web Component
- Select the InvoiceOpportunity component
    a. Label :- Invoices
    b. Name :- Invoices
- As given on below image



- Click on Save and your action Button is Ready.

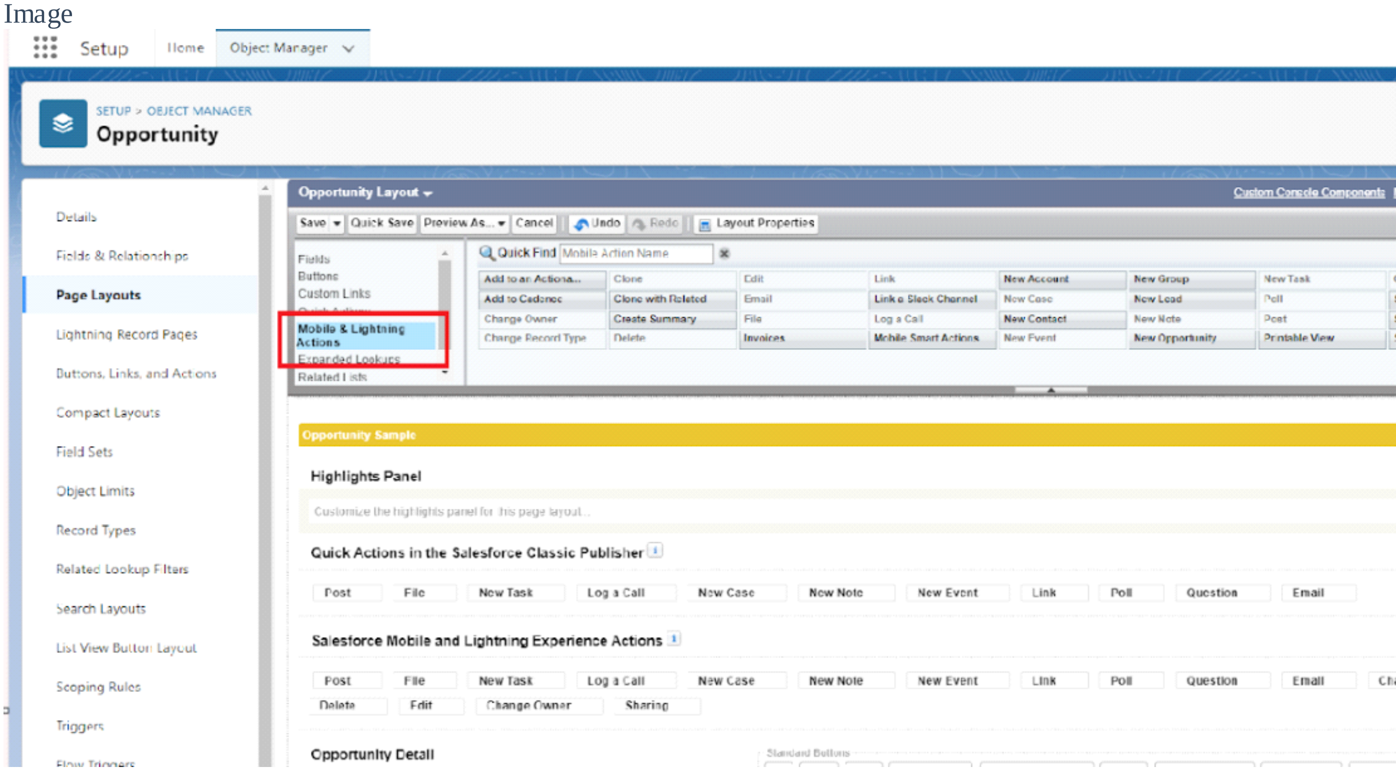
Add InvoiceOpportunity Into Opportunity Record Page

- On Opportunity Object Manager Click on Page layout.
- Click on OpportunityLayout.



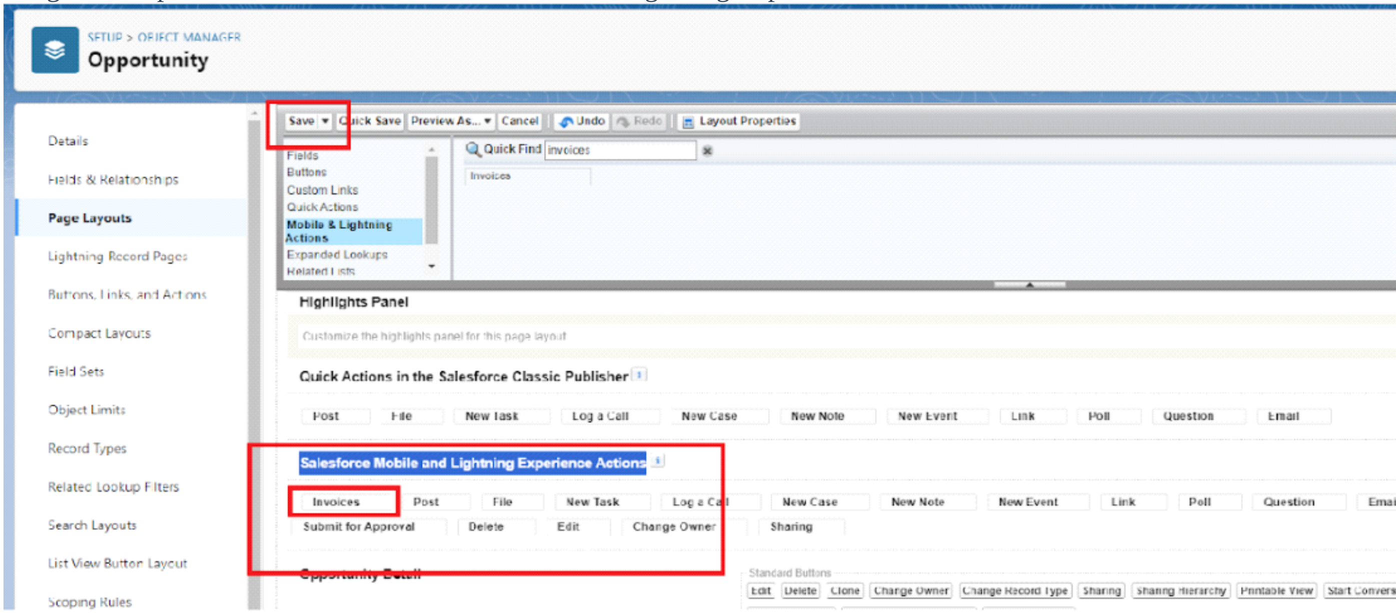
-

- Click on Mobile And Lightning Action as show on below Image



- Search for invoice on Quick Find.

- Drag and Drop the Invoice into Salesforce Mobile and Lightning Experience Actions.



Click on Save.

Apex Schedulers

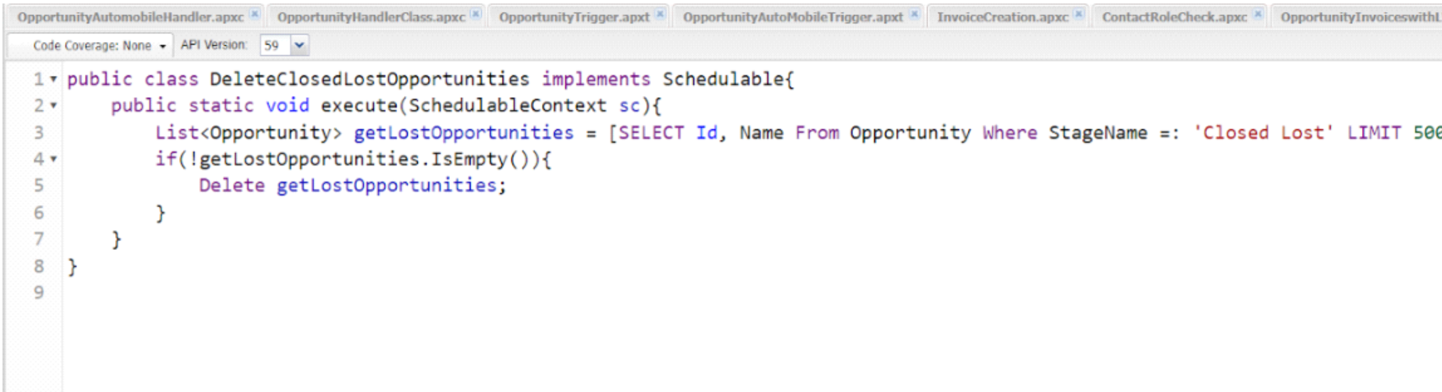
Delete Opportunity Schedule Class

Objective :

- Through this schedulable class, we can see all the Closed Lost Opportunities.
- We can delete all the Closed lost Opportunities by this Scheduled method on every monday as weekly.

  - Login to the respective account and navigate to the gear icon in the top right corner.
  - Click on the Developer console. Now you will see a new console window.
  - In the toolbar, you can see FILE. Click on it and navigate to new and create New apex class.
  - Name the class as “DeleteClosedLostOpportunities ”

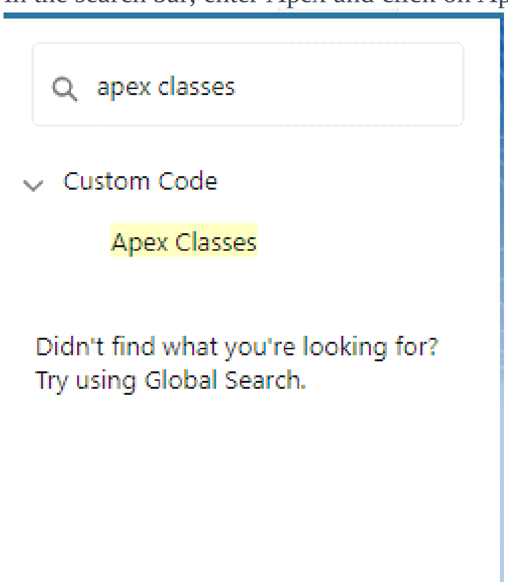
CODE SNIPPET :

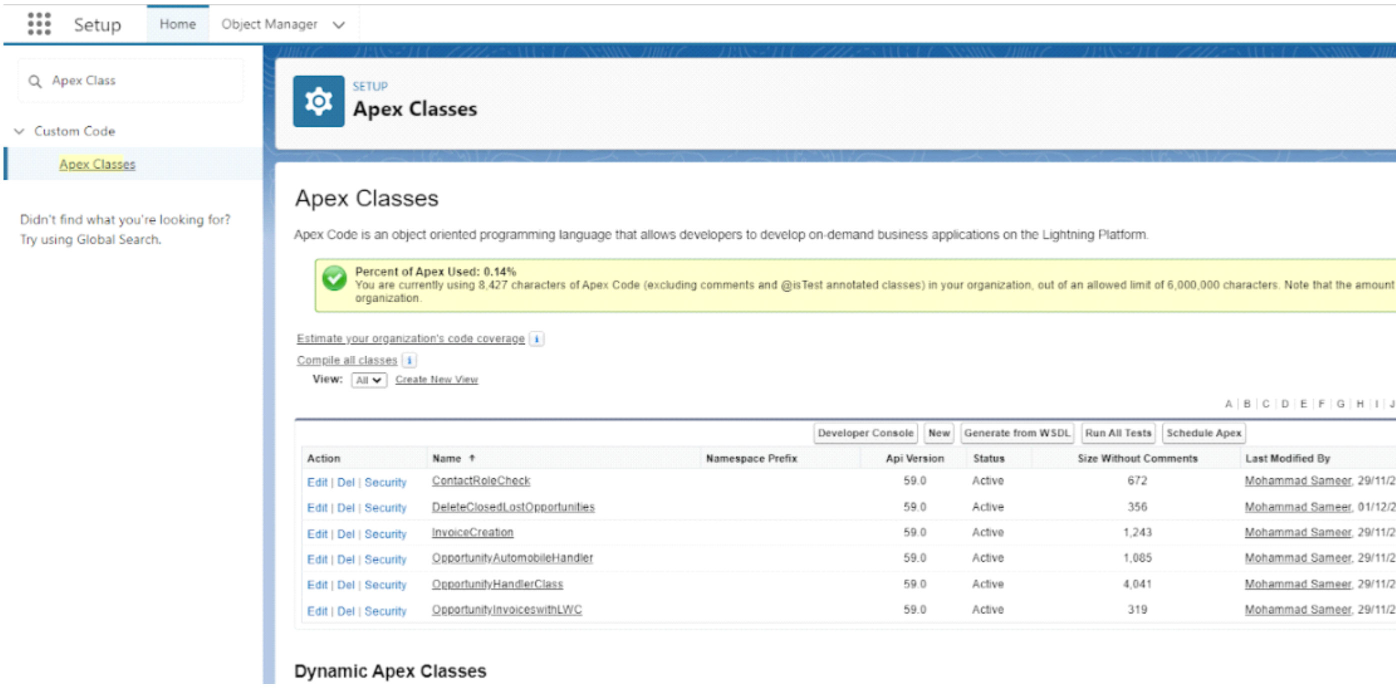



```
public class DeleteClosedLostOpportunities implements Schedulable{
    public static void execute(SchedulableContext sc){
        List<Opportunity> getLostOpportunities = [SELECT Id, Name From Opportunity Where StageName =:
'Closed Lost' LIMIT 50000];
        if(!getLostOpportunities.IsEmpty()){
            Delete getLostOpportunities;
        }
    }
}
```

Schedule the Apex class:

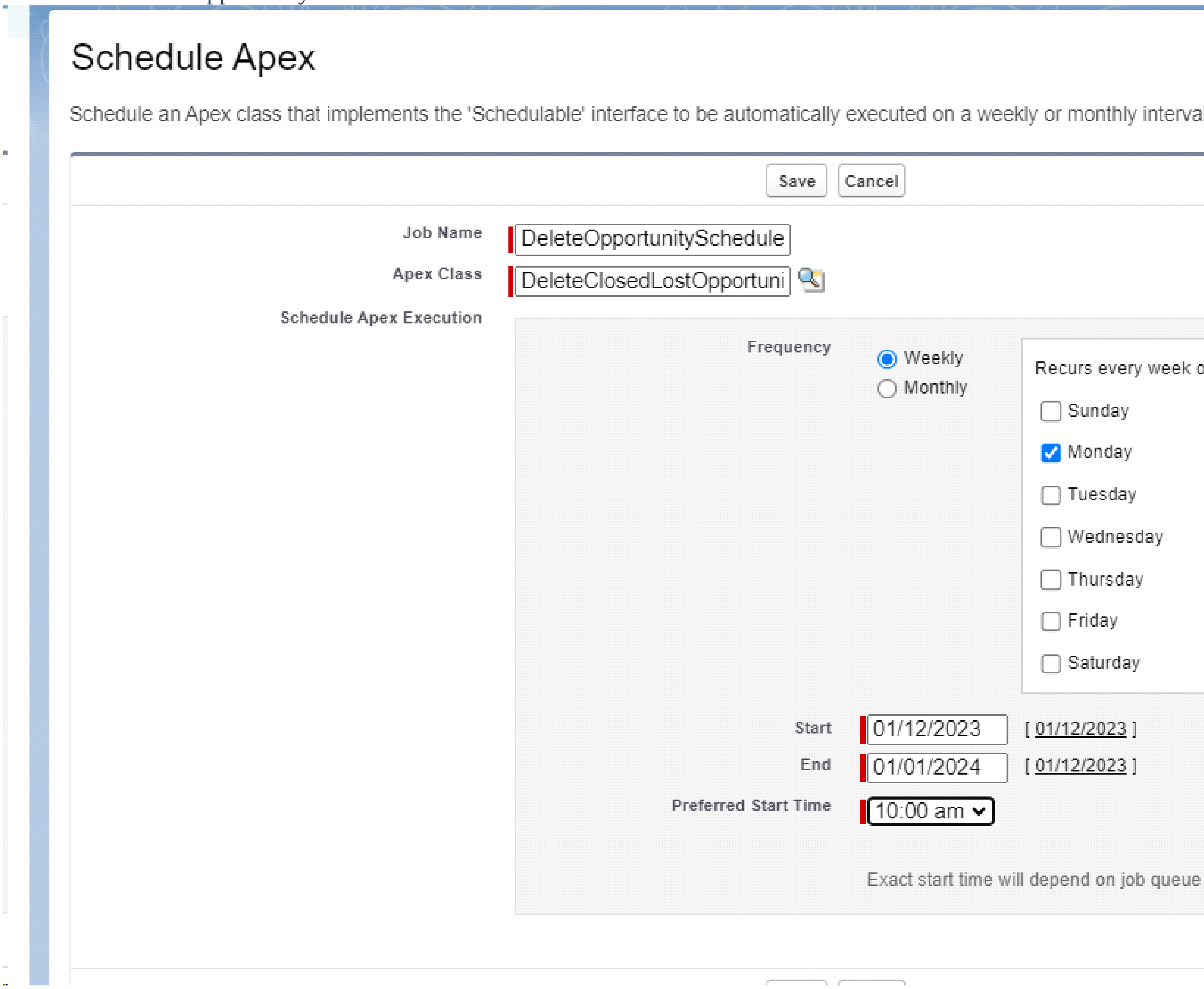
- Go to the Home page in your salesforce account.
- In the search bar, enter Apex and click on Apex Classes.



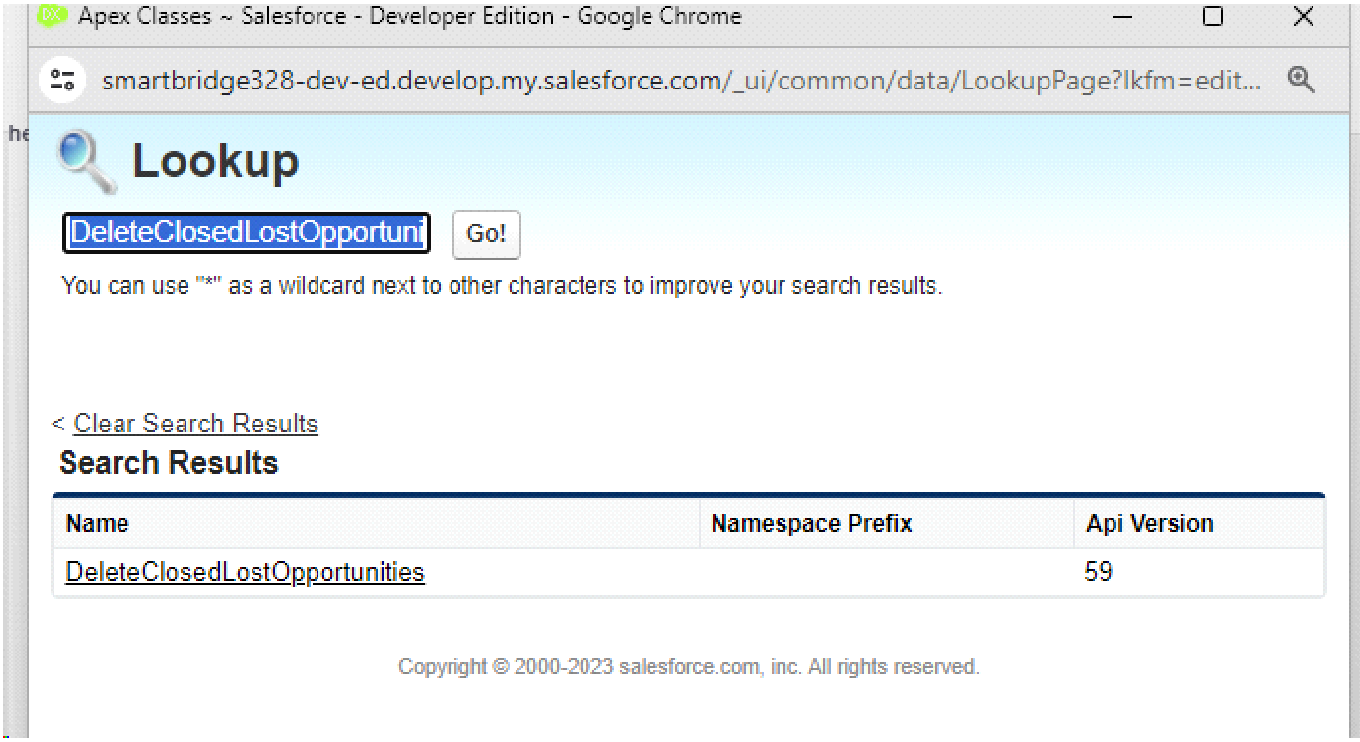


- Click on Schedule Apex and enter the Job name.

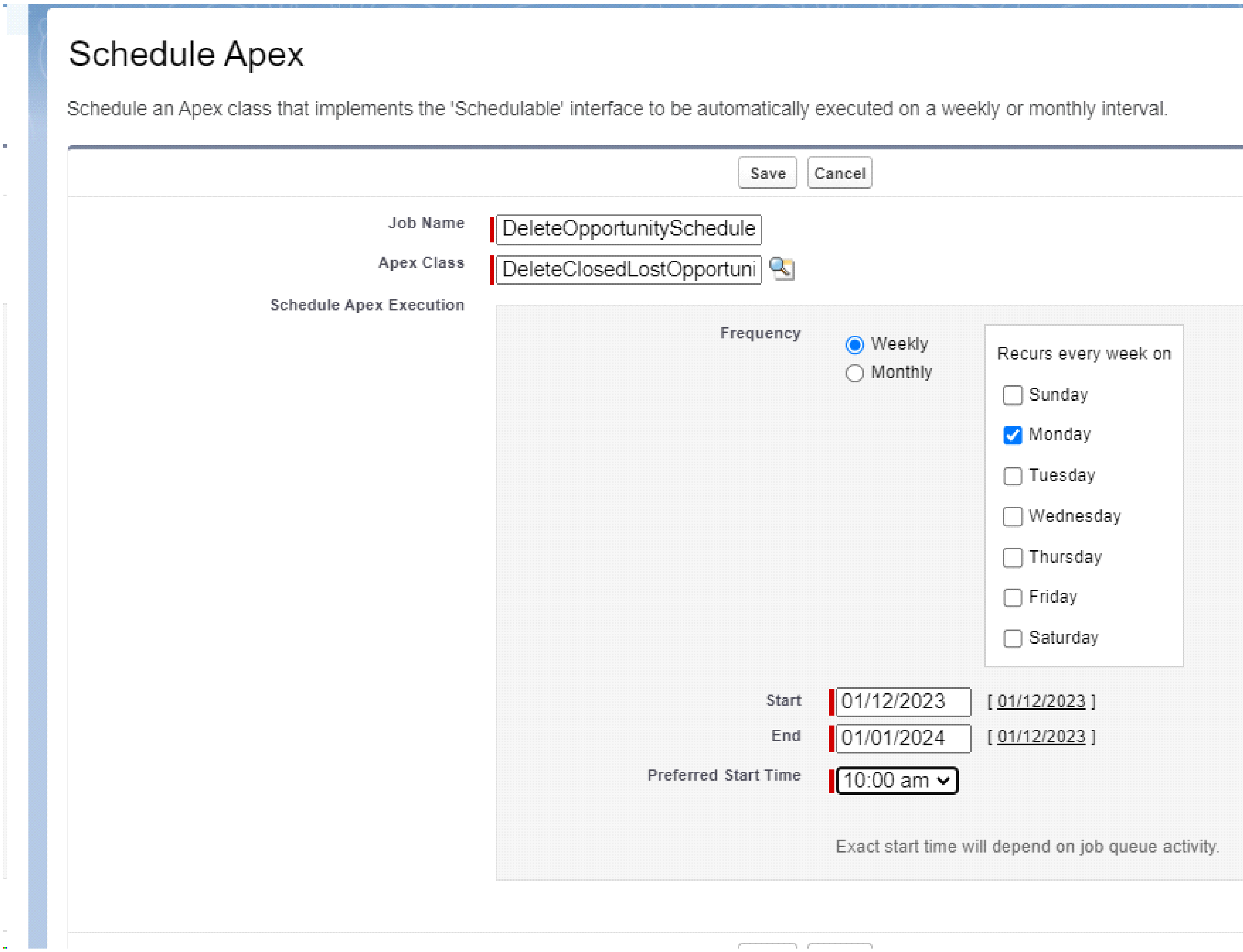
- Job Name : DeleteOpportunitySchedule



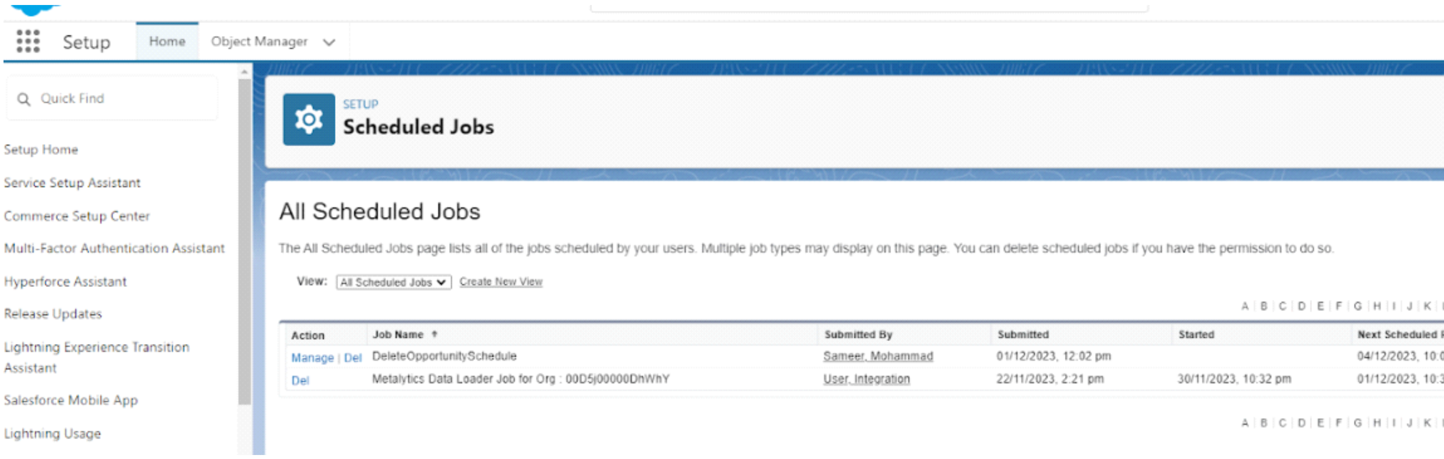
- Now click on the search icon present near the Apex class : Goto the Lookup icon beside ? click on it ? select DeleteClosedLostOpportunities.



1. In the Schedule Apex section , select weekly and select Monday mentioned and preferred time as 10:00 AM.



1. Click on Save. Now enter Apex in the search box and select Apex jobs.

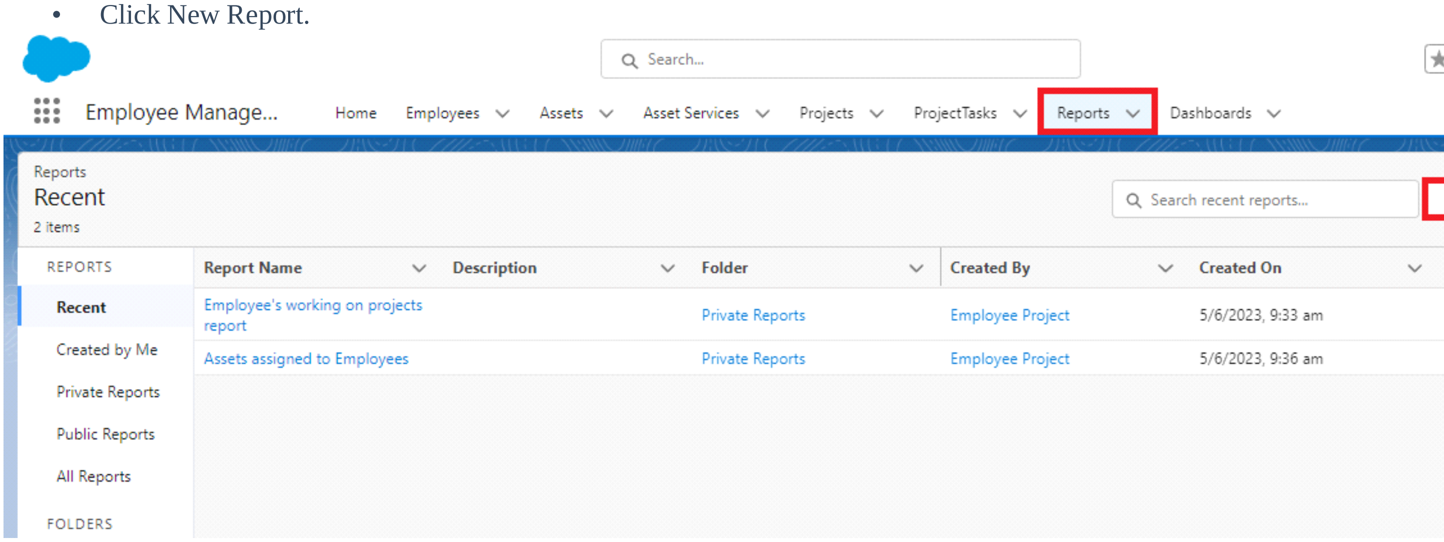


You can see that the batch job is in queue and will run whenever the day mentioned comes.

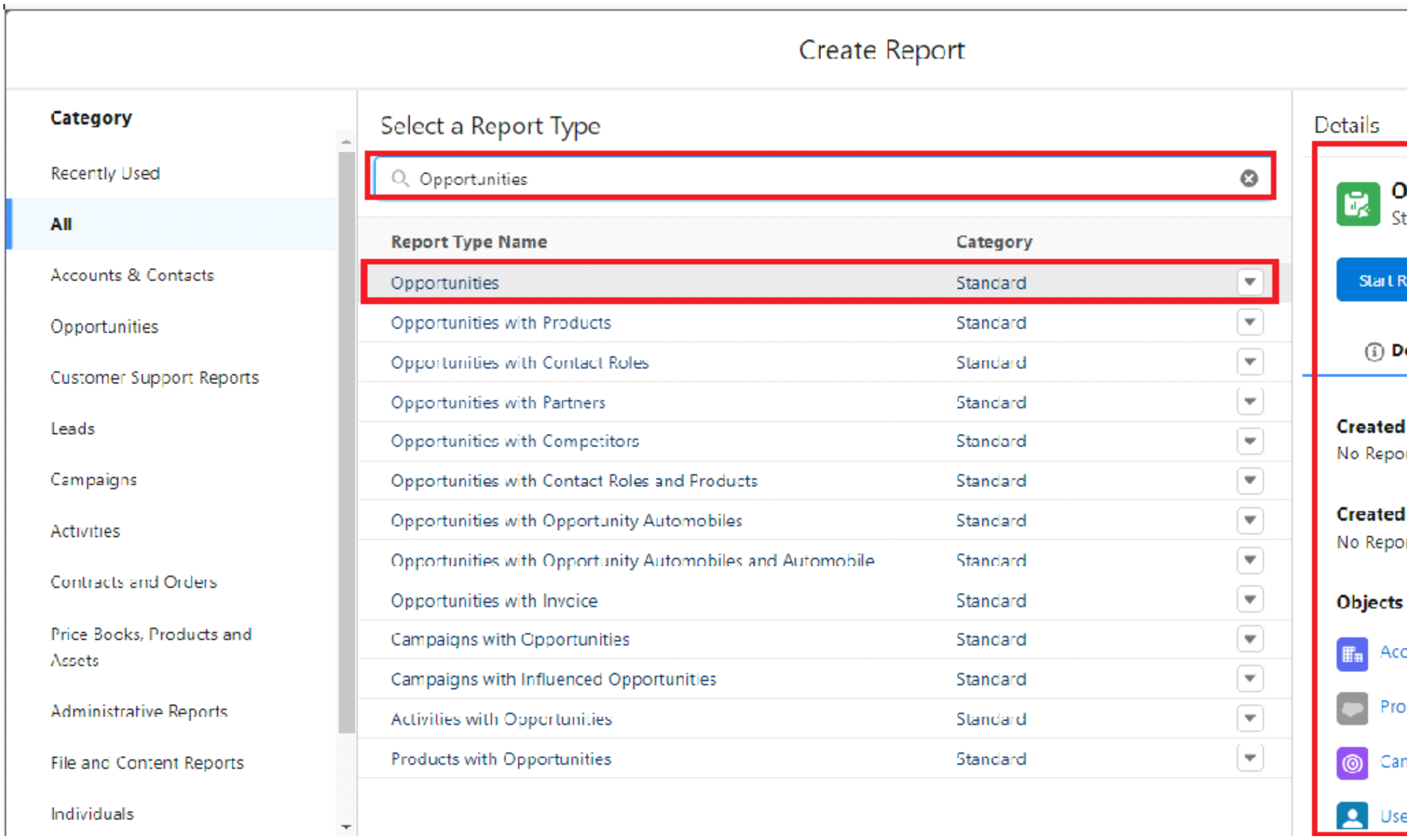
Reports

Create Report On Opportunity

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

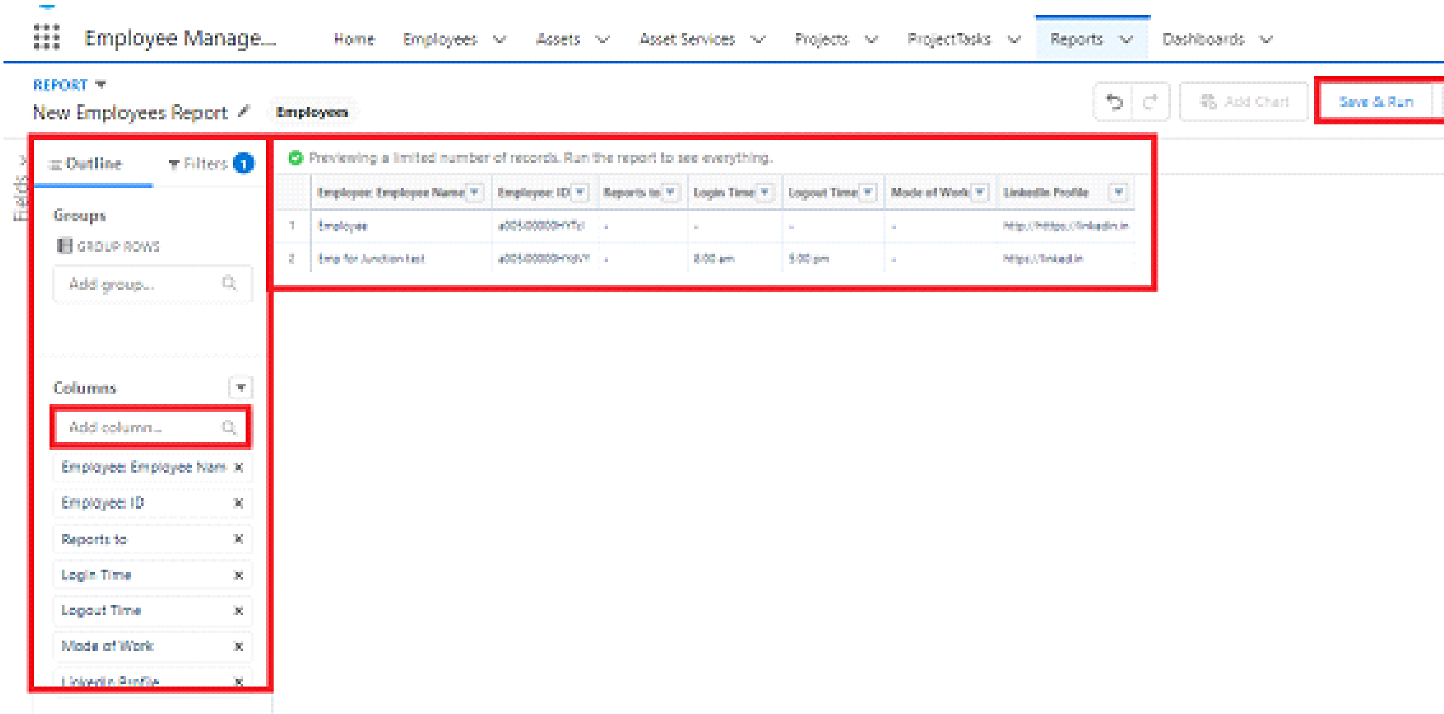


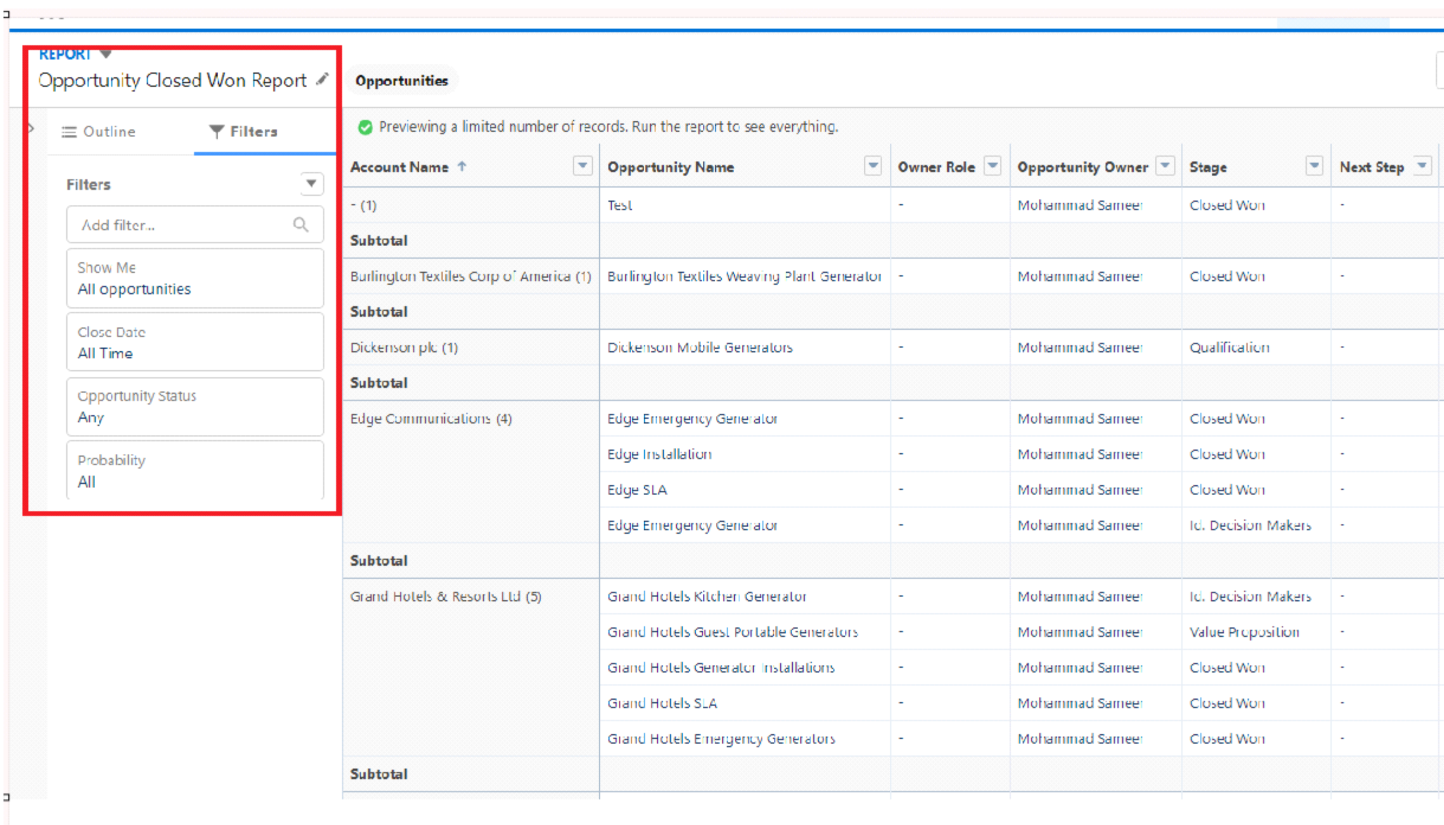
1. Select report type from category or from report type panel or from search panel >> click on start report.



1. Customize your report

- Add fields from left pane as shown below





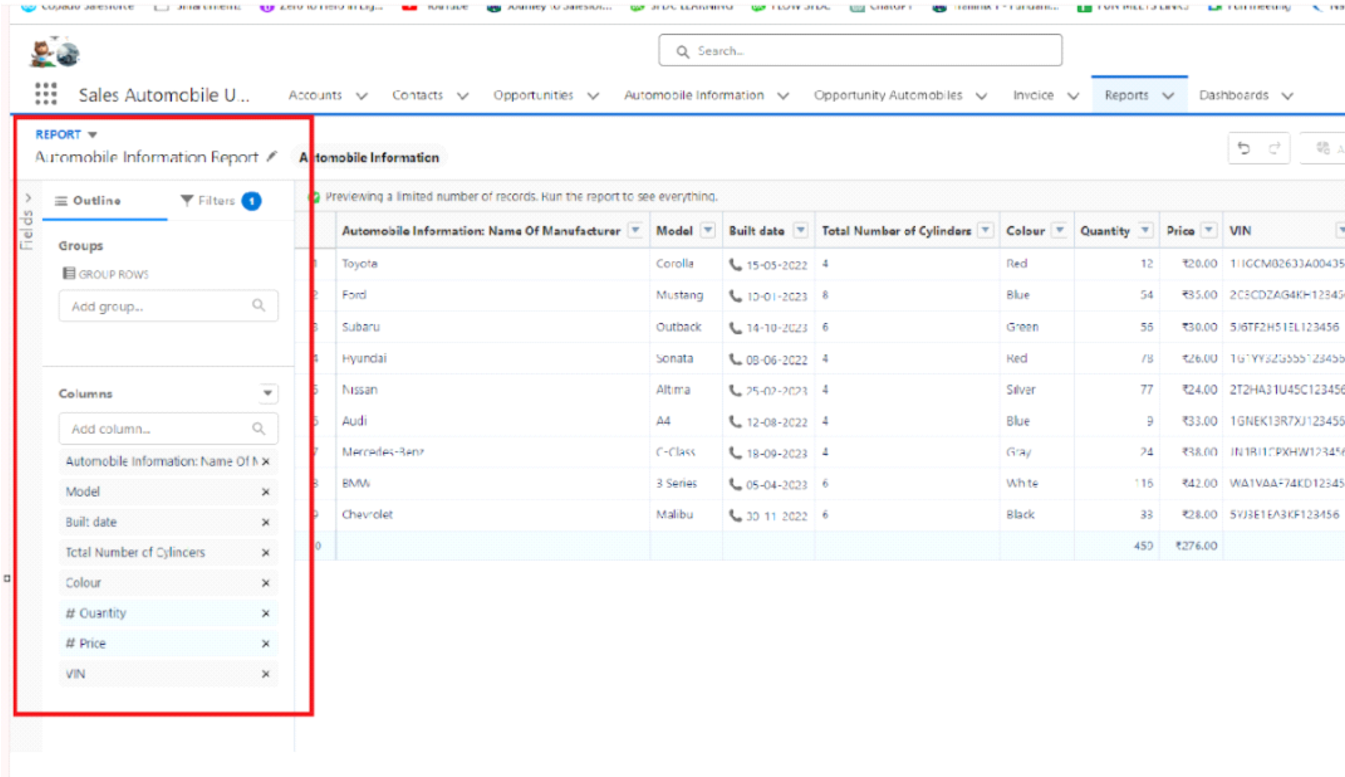
Add the Above Filter as well.

1. Save or run it.

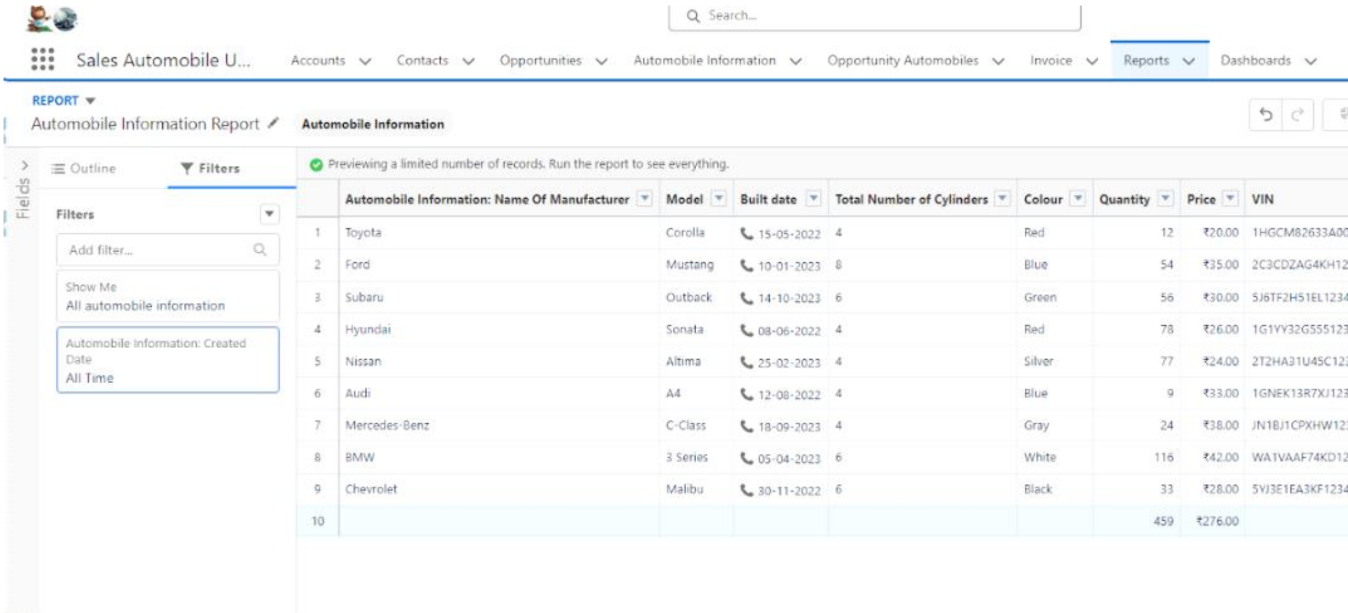
Note: Reports may get varied from the above pictures as the data might be different.

Create Report On Automobile Information

- Create a report with a report type: “Automobile Information”.



Filters:-



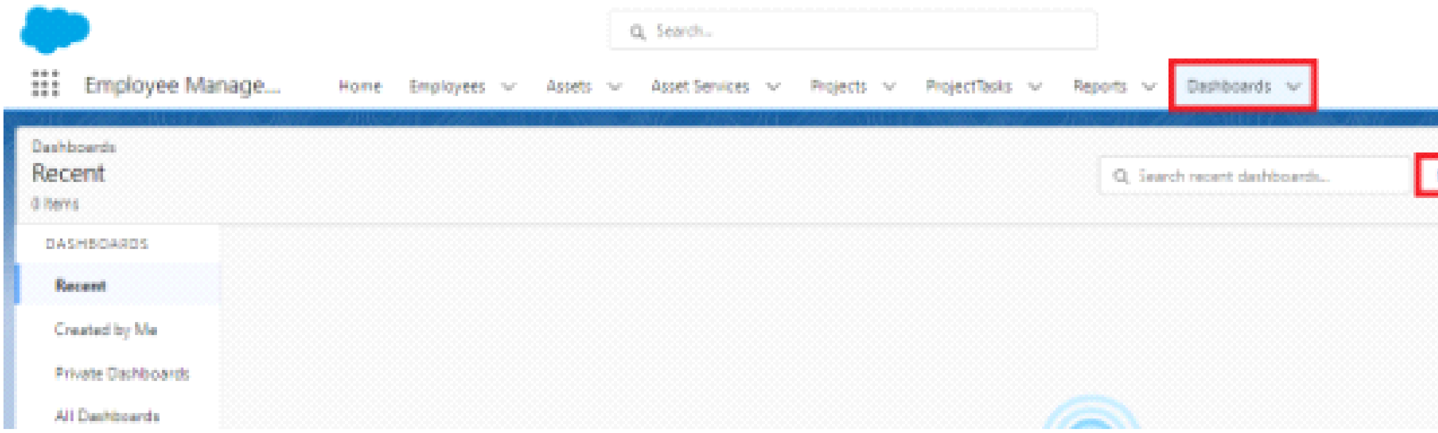
- Create a Report by using "Opportunities with Opportunity Automobiles and Automobile" Report Type.

Dashboard

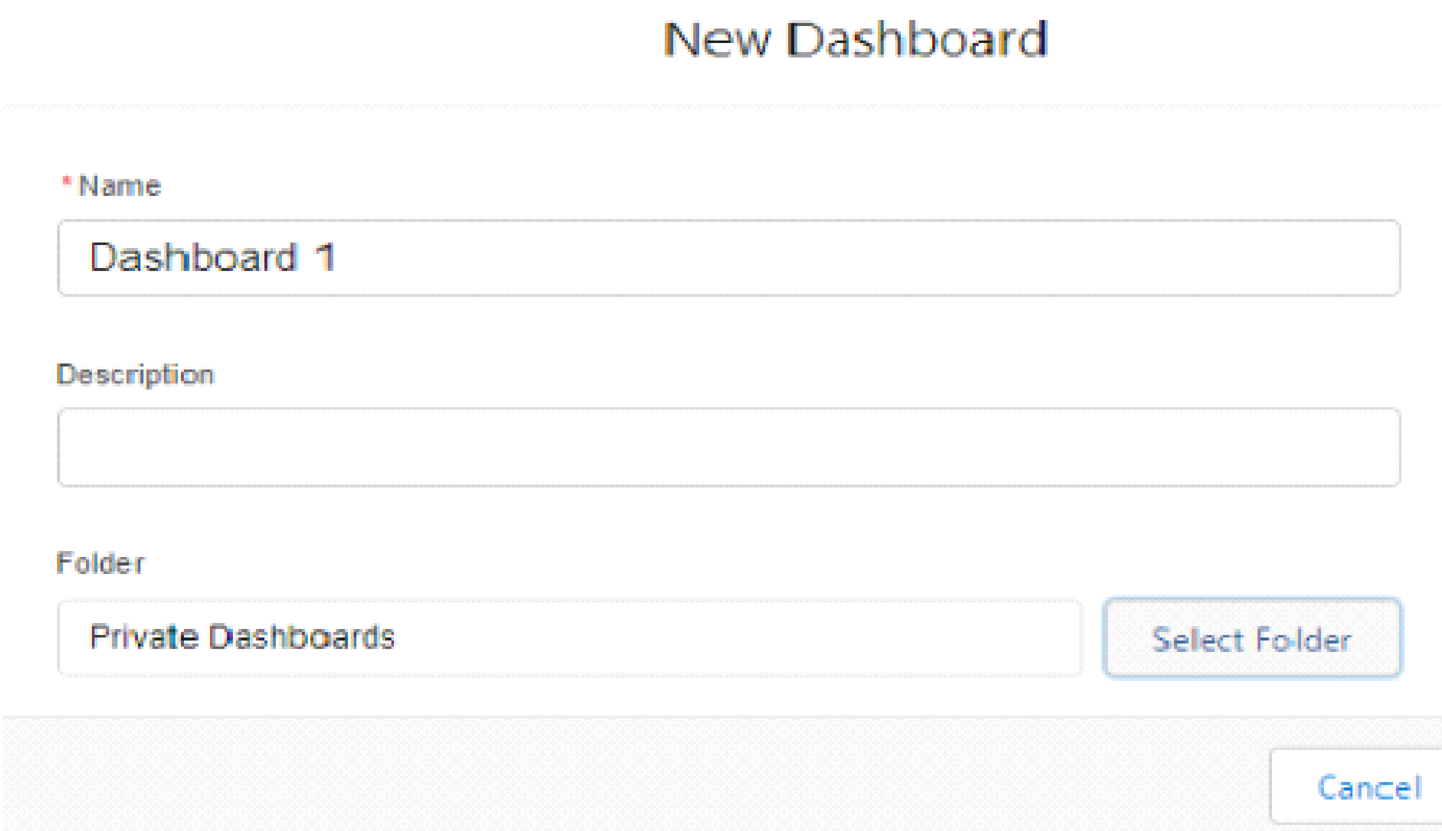
Sales Dashboard

Create Dashboard

- Go to the app ? click on the Dashboards tabs.

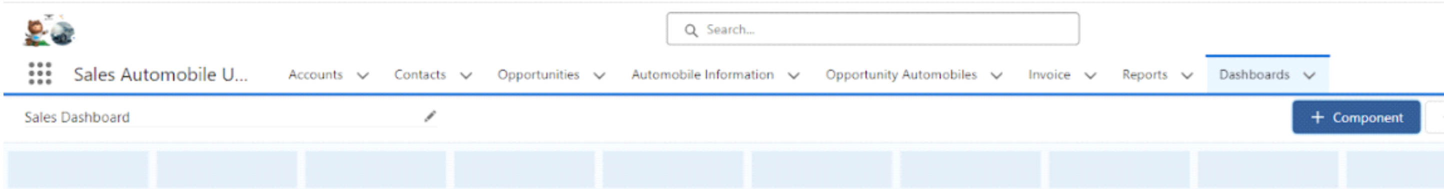


1. Give a Name and click on Create.

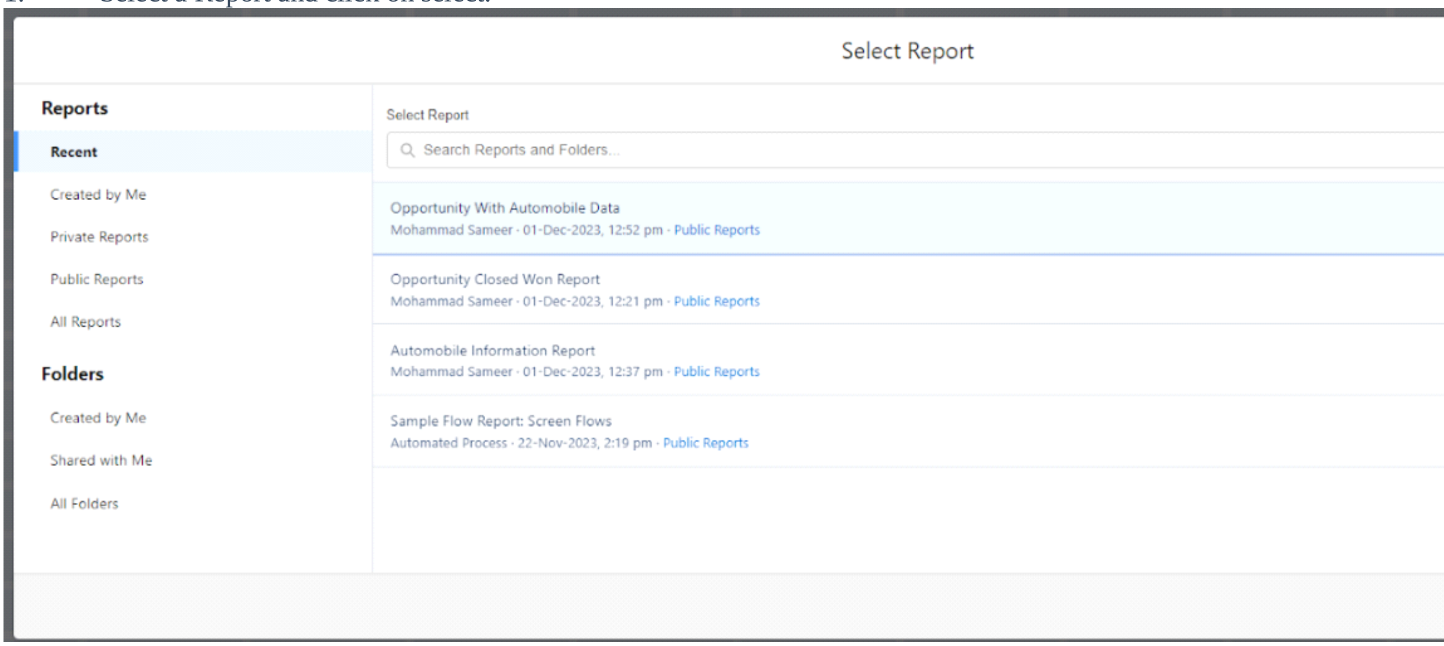


Name : Automobile Sales

1. Select add component.

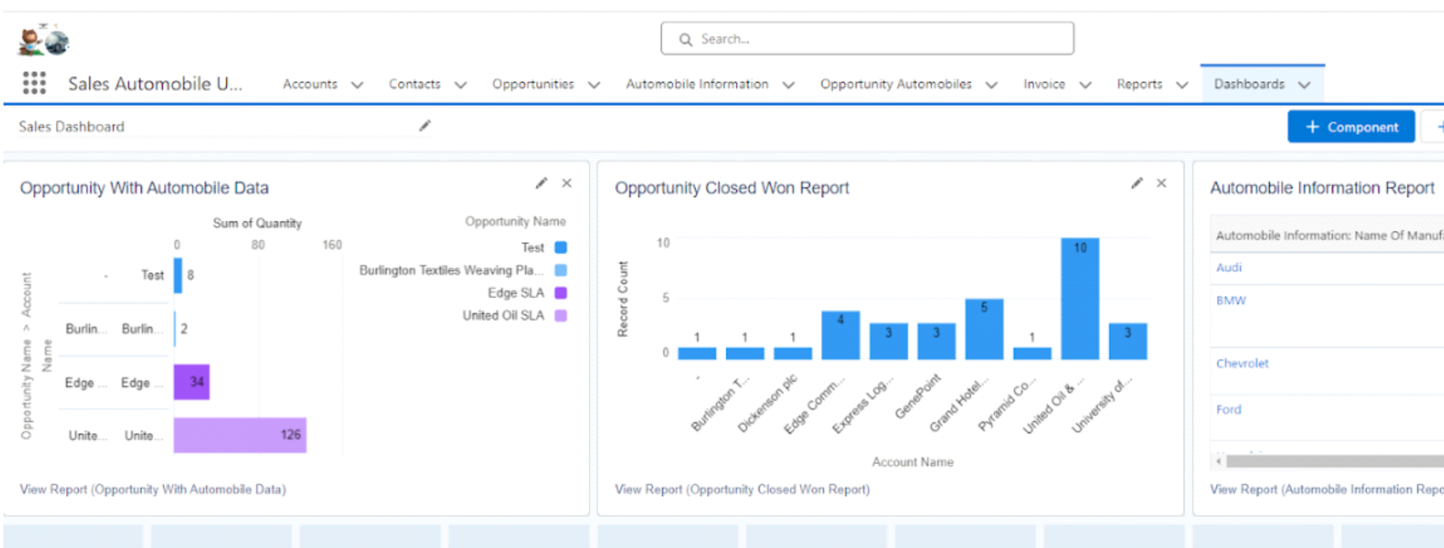


1. Select a Report and click on select.



1. Click Add then click on Save and then click on Done.

The Created Dashboard will look like this.



******************************END****************************