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Branch: Information Technology

Batch:2

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WORKFORCE ADMINISTRATION SOLUTION (DEV)

1.Project Overview

Workforce Administration Solution is a software application or platform designed to streamline and automate various aspects of employee's working on projects and Asset Assignment processes within an organization. It serves as a centralized system for managing employee data, number of projects an employee is working on, tracking employee performance, and keeping record for the assets which they are assigned to.

2. Objectives

Business Goals

Improve Workforce Efficiency

Streamline and automate workforce management processes to reduce manual tasks and improve operational efficiency.

Enhance Data Accuracy

Achieve a 95% accuracy rate in employee data, ensuring that all records, including employment details, benefits, and time-off tracking, are error-free.

Improve Compliance Management

Ensure that the system complies with all local, state, and federal regulations by integrating a compliance management tool, reducing the risk of non-compliance by 25%.

Specific Outcomes

Centralized Employee Records

Consolidate all employee data into a single, centralized system for easy access and real-time updates, eliminating information across multiple systems.

Time-Off and Leave Management

Introduce an automated leave management system within Salesforce, allowing employees to request time off, track accruals, and manage approvals directly, resulting in a 20% reduction in HR workload for leave-related inquiries.

Enhanced Reporting and Analytics

Deliver custom dashboards and reports to track workforce performance, turnover, and compliance, with the ability to generate real-time reports at the click of a button, improving decision-making speed

3. Salesforce Key Features and Concepts Utilized

- Object
- Tabs
- The Lightning App:
- Fields & Relationships
- Setting OWD
- User Adoption
- Import Data
- Profiles
- Role
- Users
- Page layouts
- Chatter Group
- Record Types
- Permission sets
- Reports
- Dashboards
- Approval Process
- Apex Trigger

4. Detailed Steps to Solution Design

Object

What Is an Object?

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

Salesforce objects are of two types:

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

To create an object:

1. From the setup page --> Click on Object Manager --> Click on Create --> Click on Custom Object.
2. Enter the label name: Employee
3. Plural label name: Employees
4. Enter Record Name Label and Format

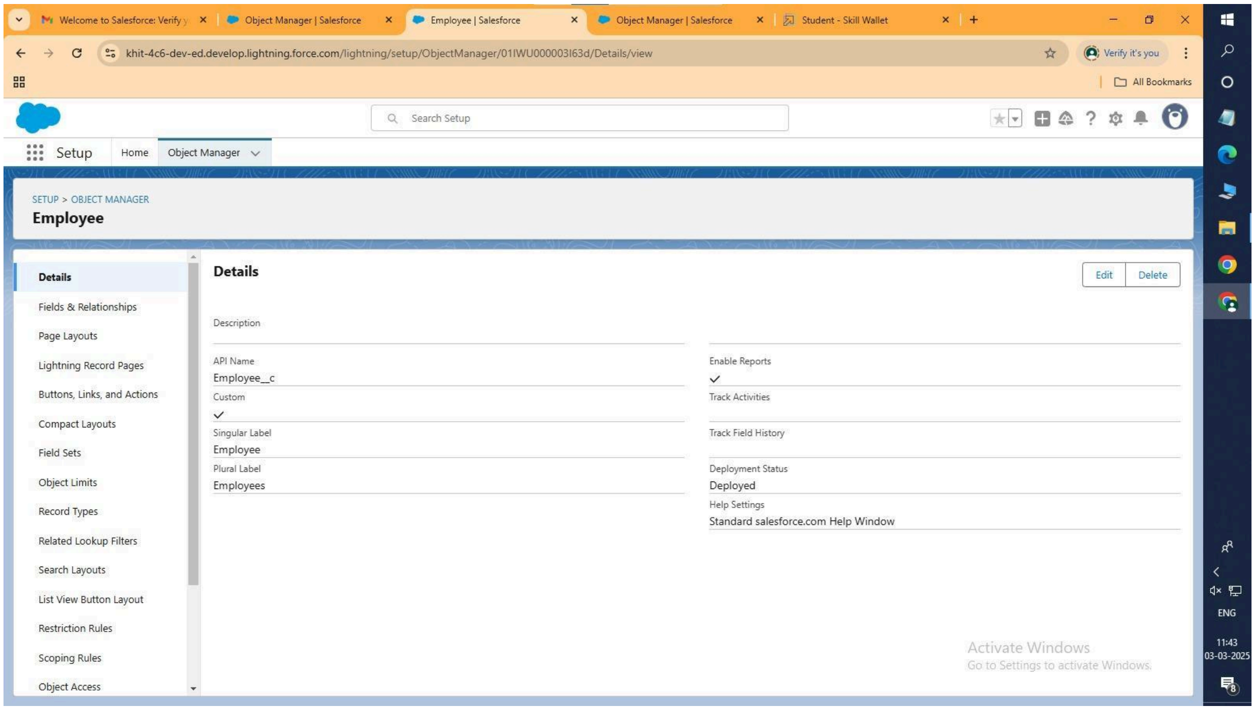
   Record Name : Employee ID

   Data Type : Auto Number

   Display Format : EMS-{0000}

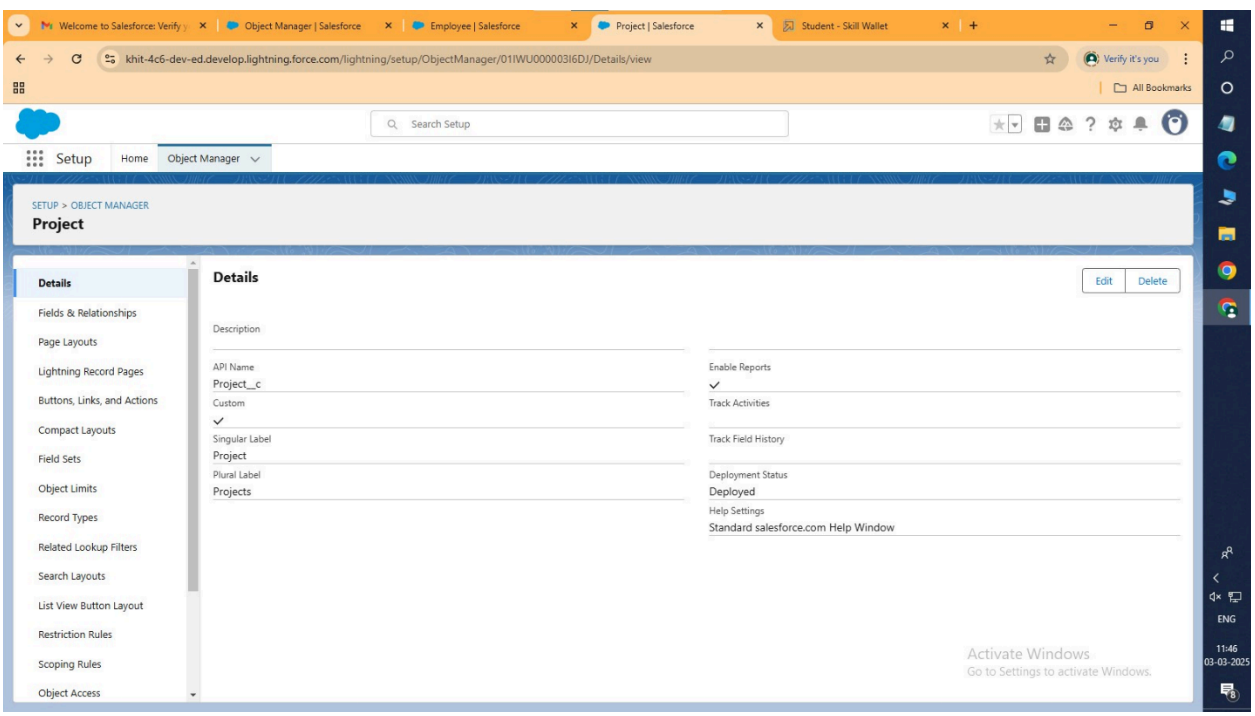
   Starting Number : 1

5. Click on Allow reports, Allow search --> Save.

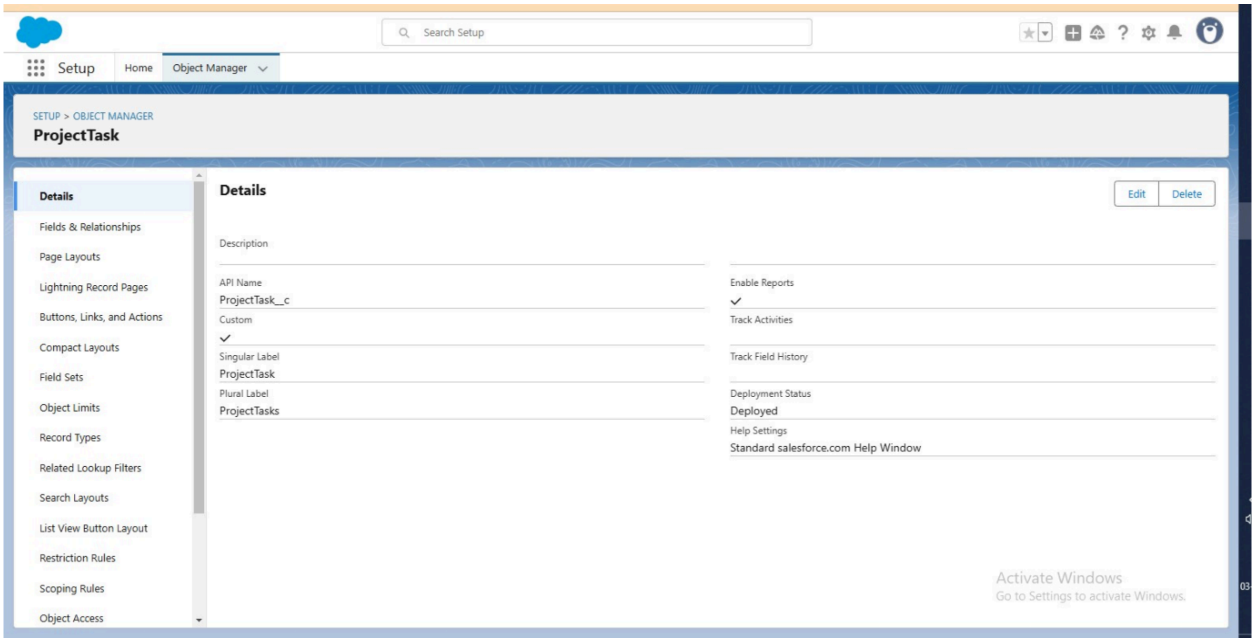


In the similar way Create the objects with the Project, ProjectTask, Asset, Asset Services.

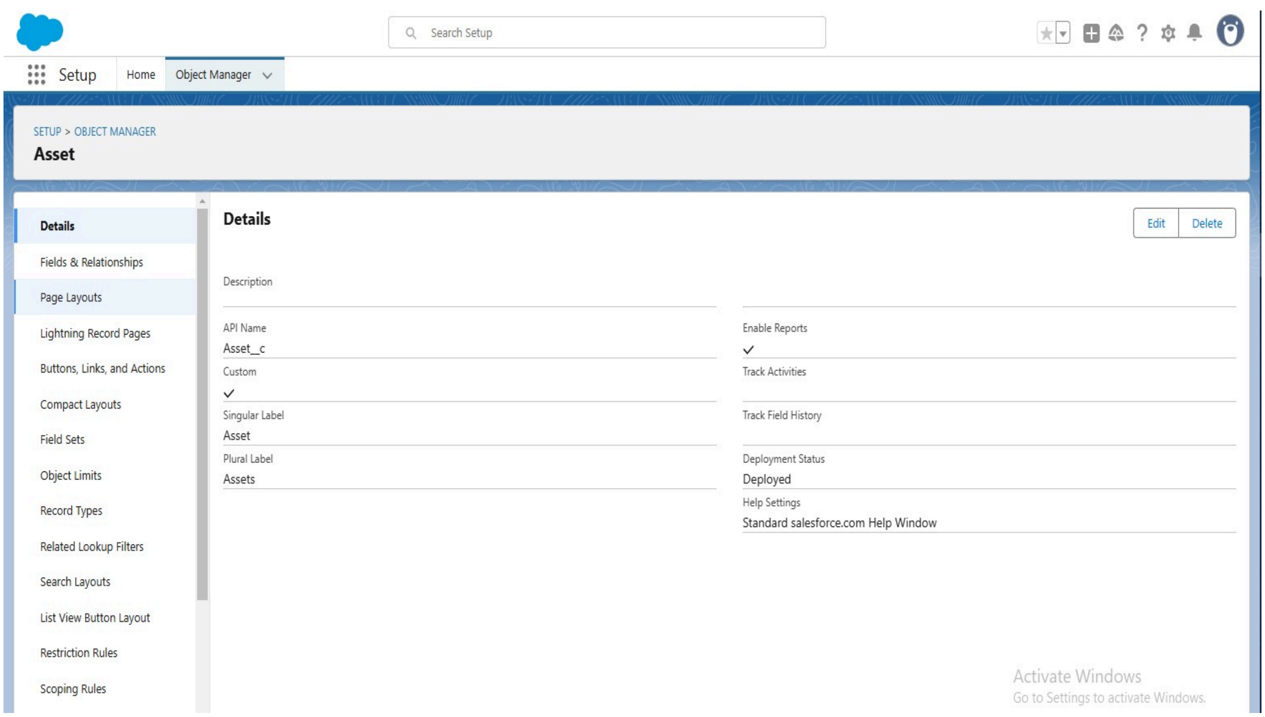
Create Project Object



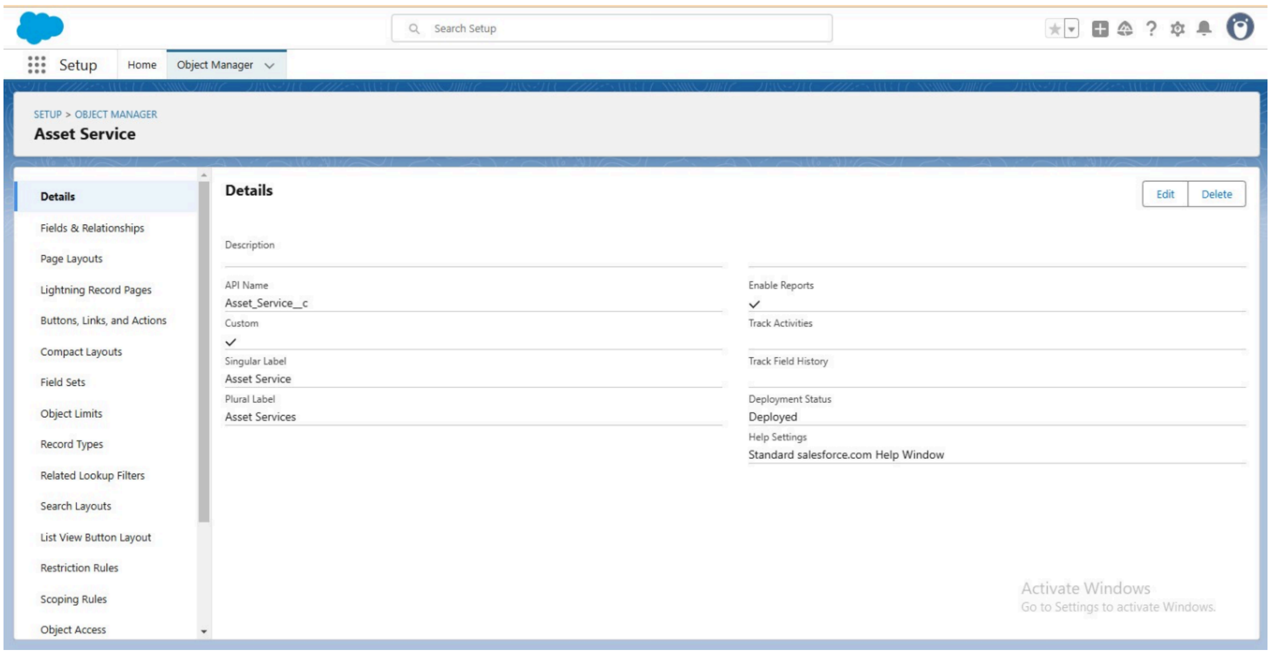
Create ProjectTask Object



Create Asset Object



Create Asset Service Object



Tabs

What is Tab?

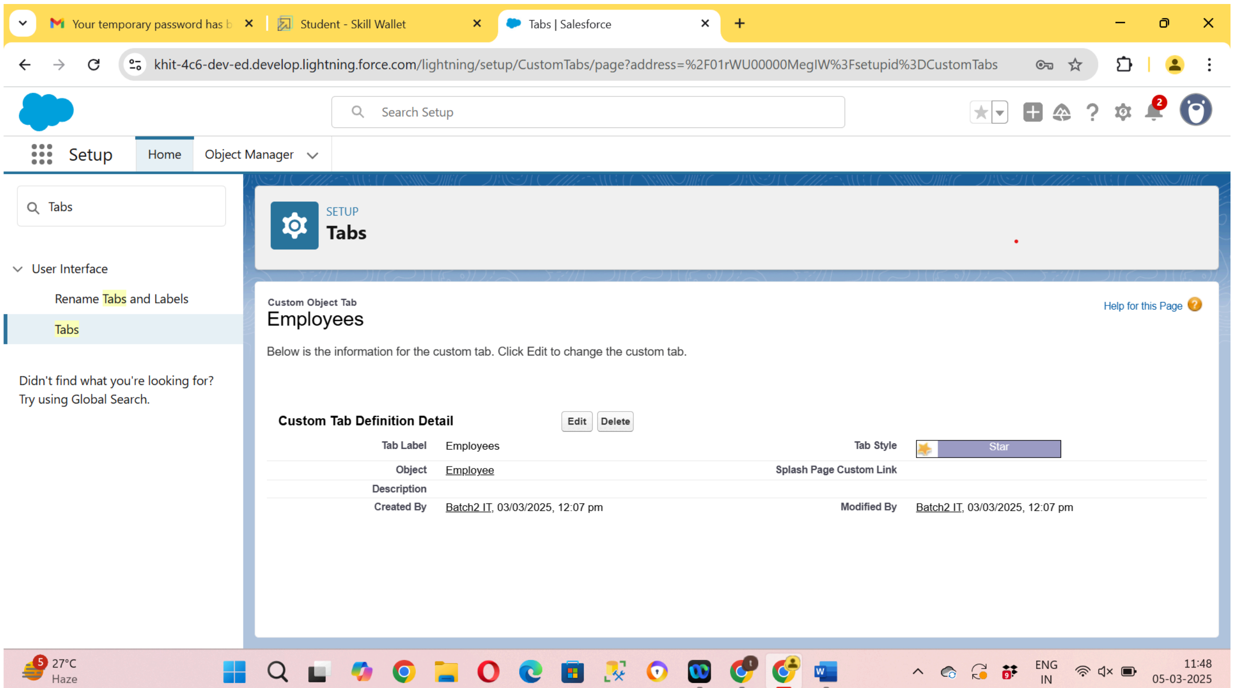
A Tab is like a user interface that is used to build records for objects and to view the records in the Object

To create a Tab

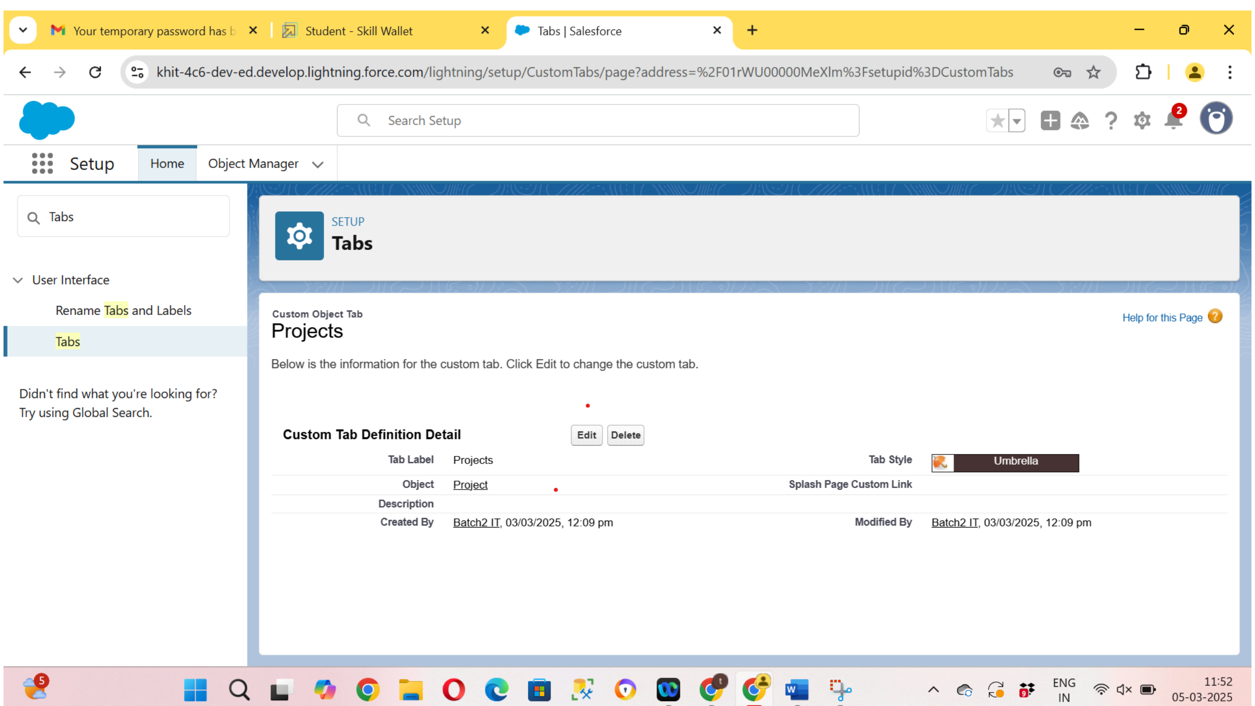
1. Go to setup page --> type Tabs in Quick Find bar --> click on tabs --> New (under custom object tab)

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

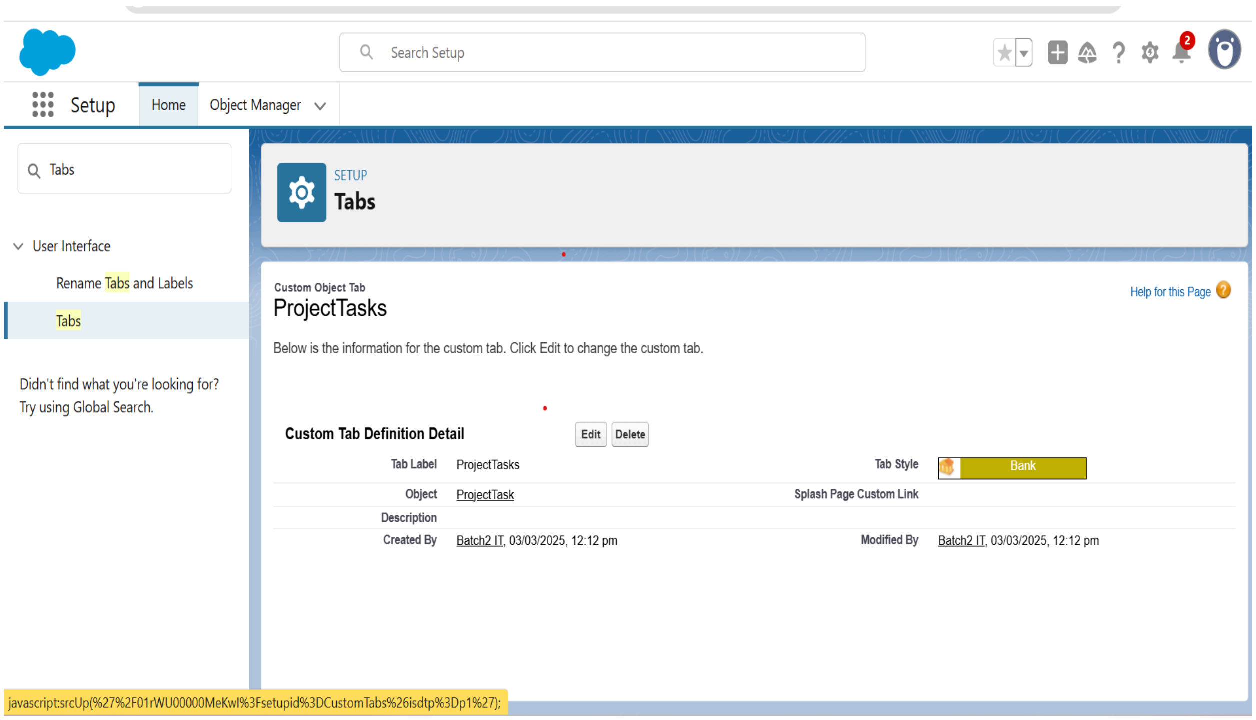
Creating a Custom Tab (Employee)



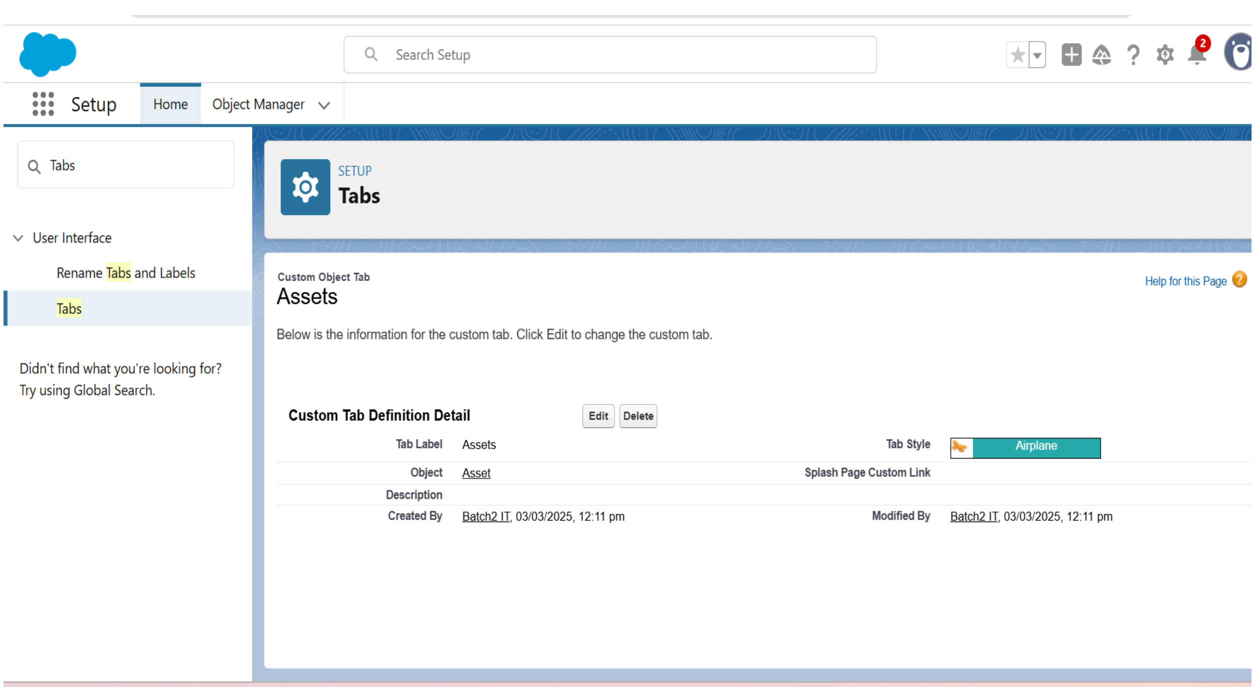
Creating a Custom Tab (Project)



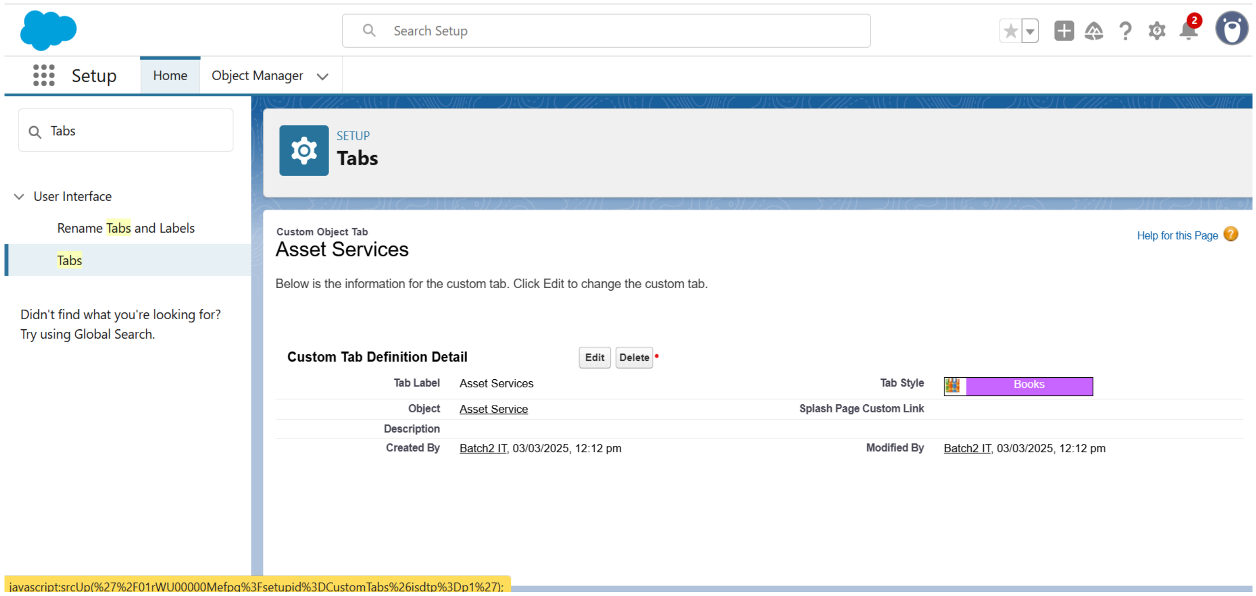
Creating a Custom Tab (ProjectTasks)



Creating a Custom Tab (Assets)



Creating a Custom Tab (Asset Services)



The Lightning App

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

To create a lightning app page

1. Go to setup page --> search "app manager" in quick find --> select "app manager" --> click on New lightning App.
2. Fill the app name in app details and branding as follow

   App Name : Workforce Administrator Solution

   Developer Name : this will auto populated

   Description : Give a meaningful description

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

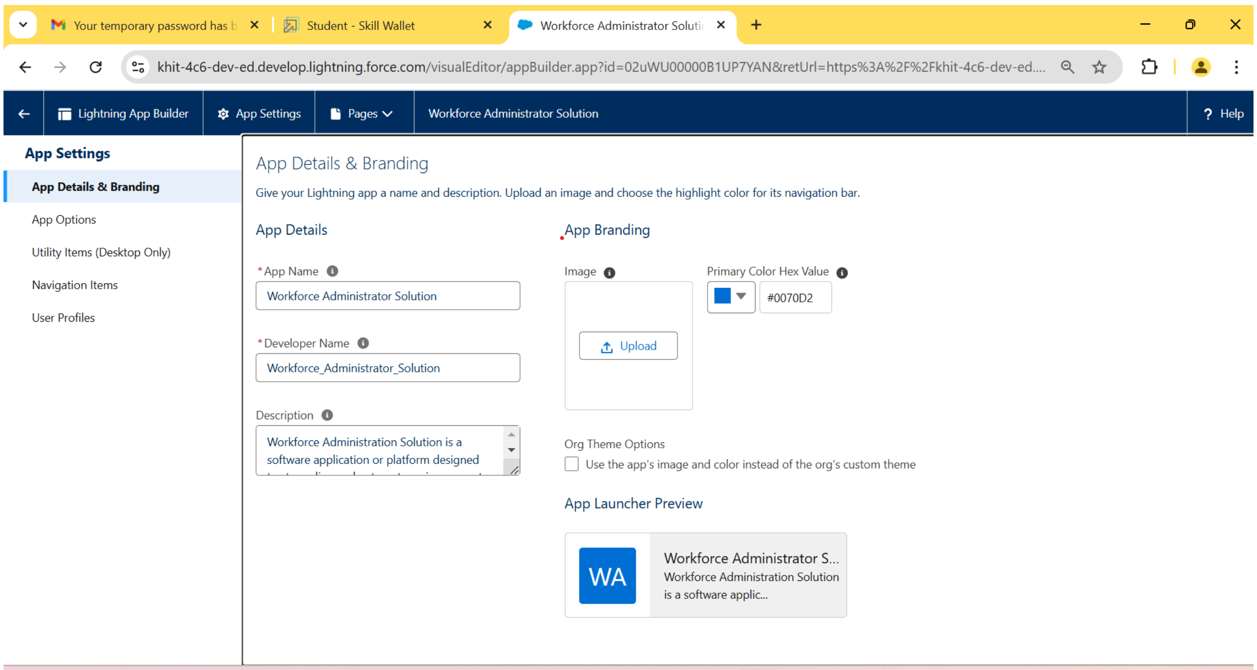
   Primary color hex value : keep this default
3. Then click Next --> (App option page) keep it as default --> Next --> (Utility Items) keep it as default --> Next.

4. To Add Navigation Items:

   Search the items in the search bar(Employees, Projects, ProjectTask, Assets, Asset Services, Reports, Dashboard) from the search bar and move it using the arrow button --> Next.

5. To Add User Profiles:

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



Fields & Relationships

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

Types of Fields 1. Standard Fields 2. Custom Fields

Activity 1: Creating Text Field in Employee Object

1. Go to setup --> click on Object Manager --> type object name (Employee) in quick find bar --> click on the object.
2. Now click on "Fields & Relationships" --> New
3. Select Data type as "Text".

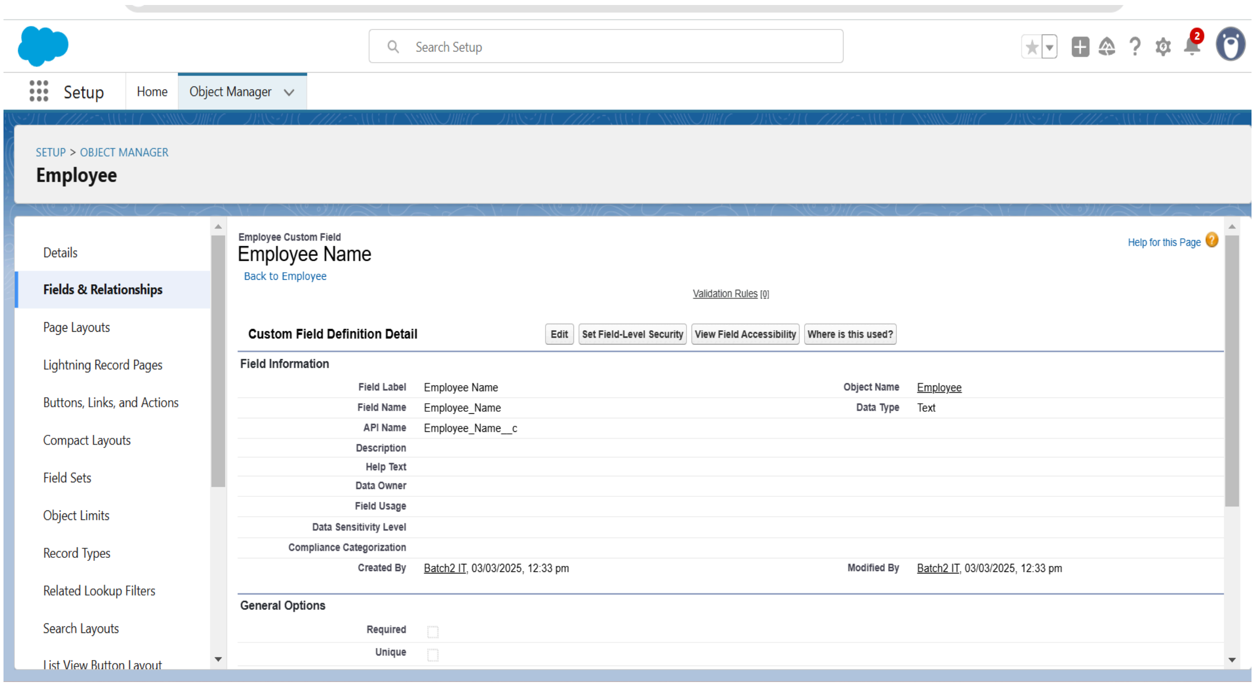
4. Click on Next
5. Fill the above as following:

   Field Label: Employee Name

   Length: 18

   Field Name: gets auto generated

   Click on Next --> Next --> Save and new.

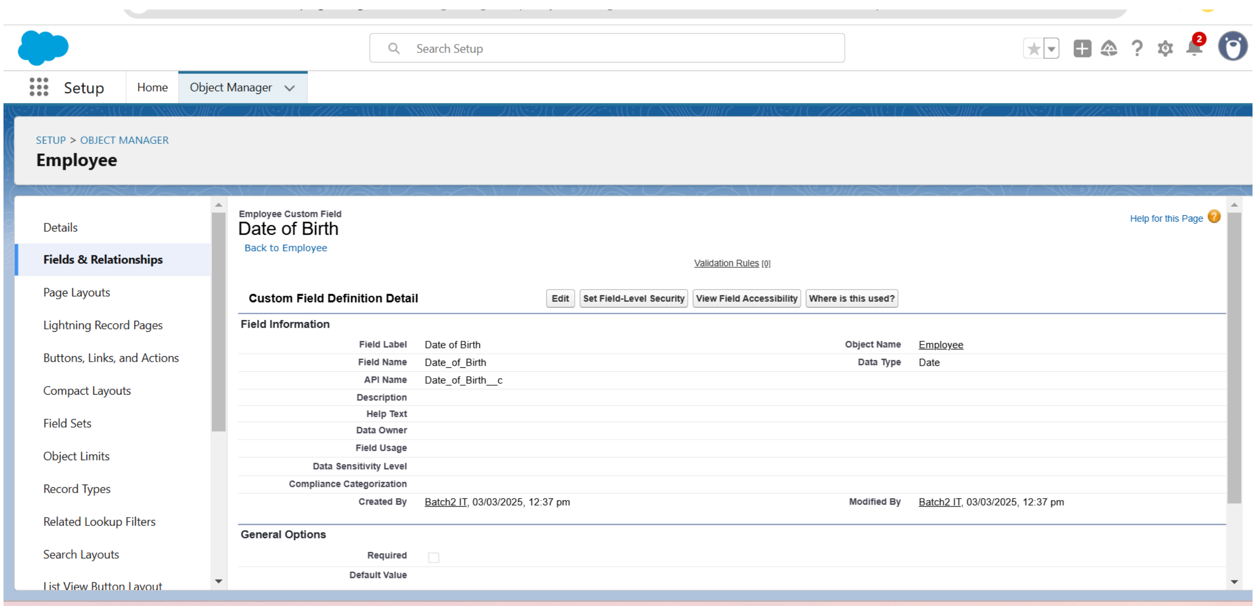


Activity 2: Creating Date of Birth Field in Employee Object

1. Repeat step 1 and 2 mentioned in activity 1
2. Select Data type as “Date” and click Next.
3. Click on Next.
4. Fill the above as following:

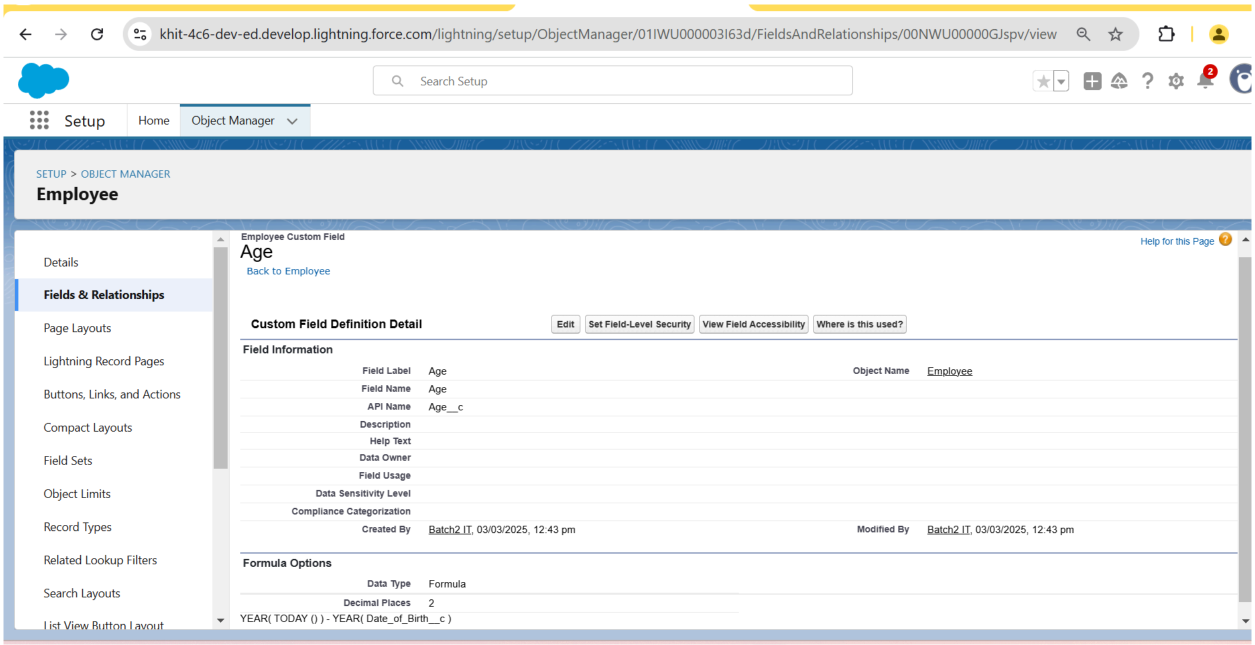
   Field Label: Date of Birth. Field Name: gets auto generated.

5. Click on Next --> Next --> Save and new.



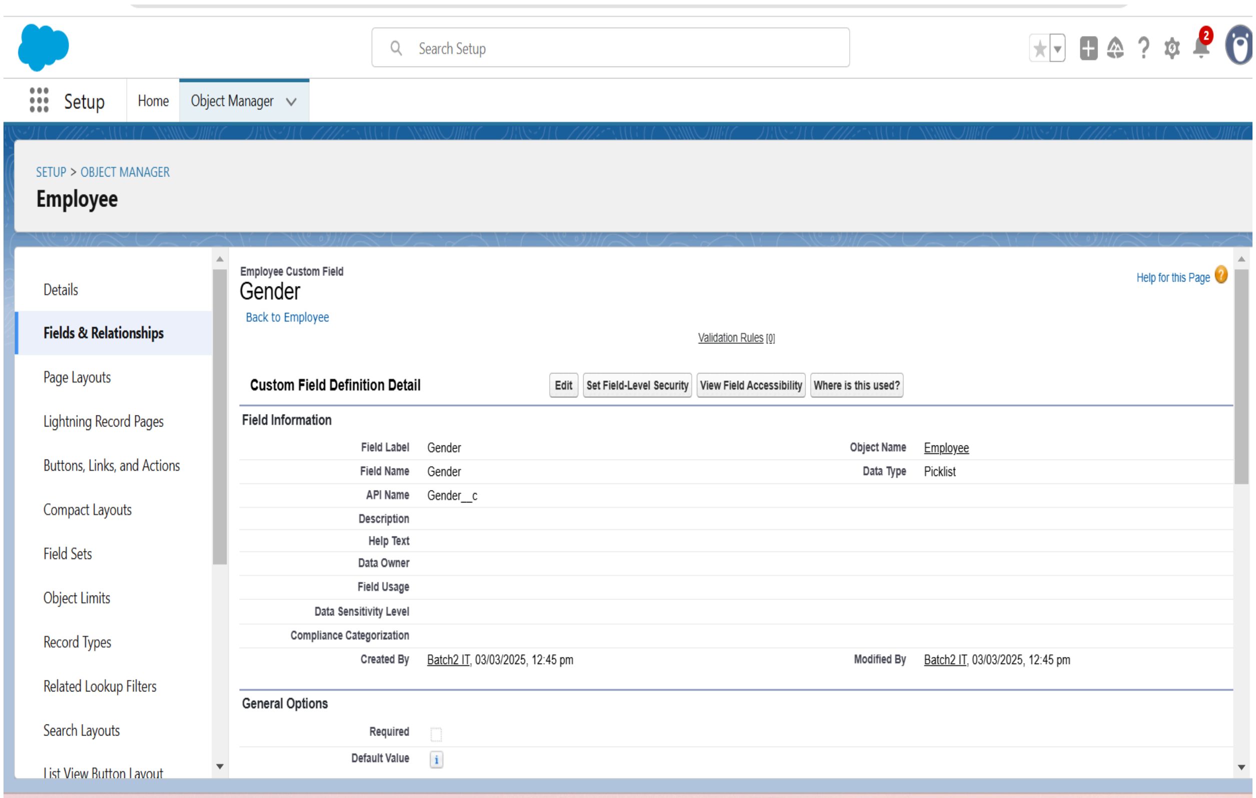
Activity 3: Creating Formula Field in Employee Object

1. Repeat step 1 and 2 mentioned in activity 1
2. Select Data type as “Formula” and click Next.
3. Give Field Label and Field Name as “Age” and select formula return type as “Number” and click next.
4. Under Advanced Formula write down the formula and click “Check Syntax” and Next --> Next --> Save & New.



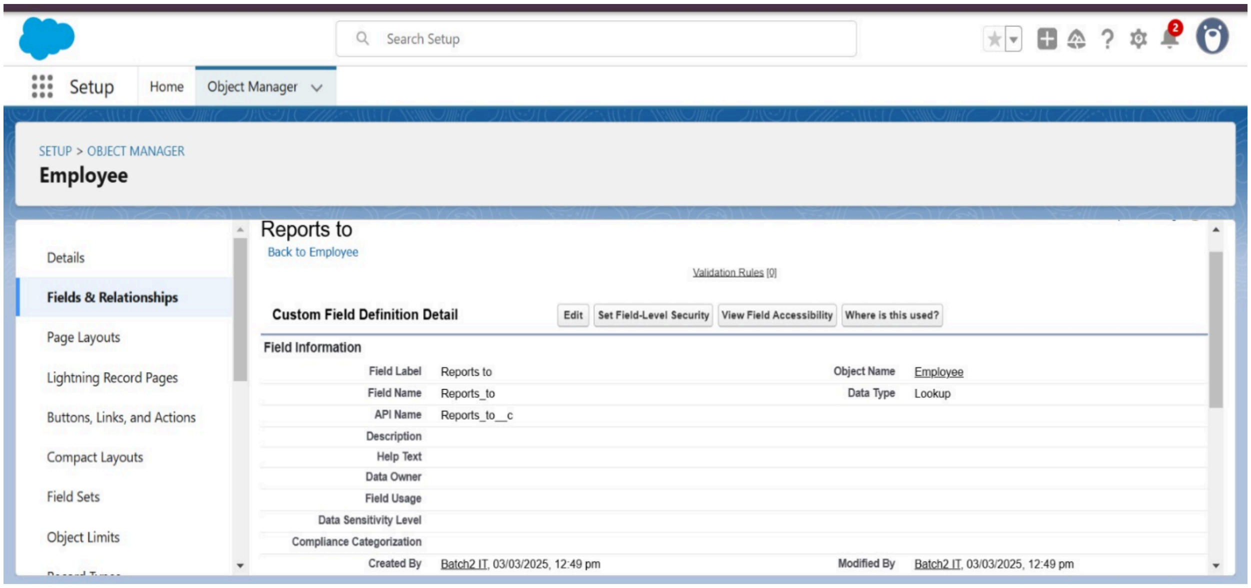
Activity 4: Creating Picklist Field in Employee Object

1. Repeat step 1 and 2 mentioned in activity 1
2. Select Data type as “Picklist” and click Next.
3. Enter Field Label as “Gender”, under values select “Enter values, with each value separated by a new line" and enter values as shown below.
4. Click Next --> Next --> Next --> Save & New.



Activity 5: Creating Self-Relationship Field in Employee Object

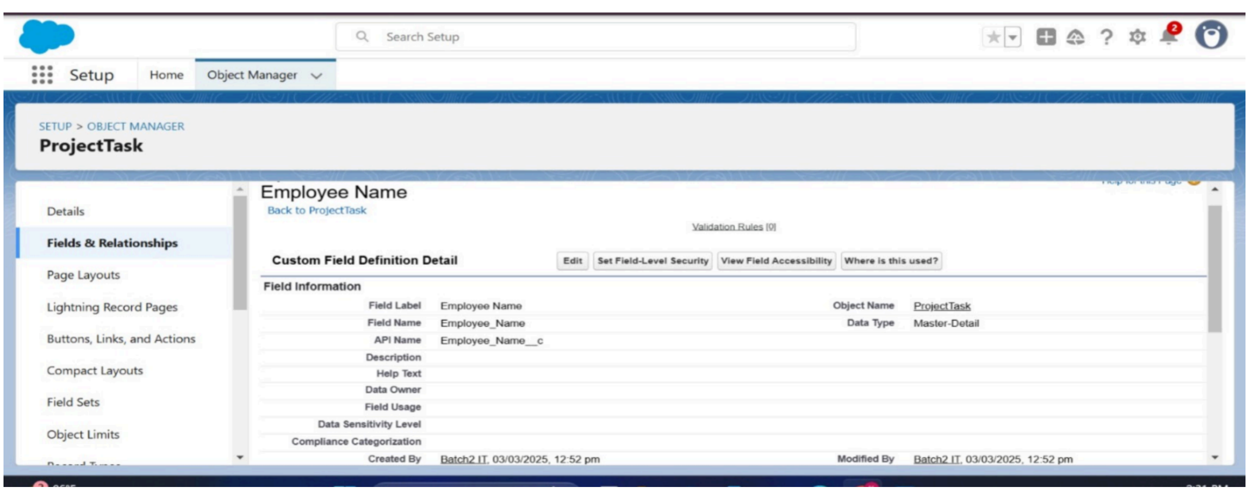
1. Repeat step 1 and 2 mentioned in activity 1
2. Select Data type as “Lookup Relationship” and click Next.
3. Select Employee from the drop down related to the field and click Next.
4. Give Field Label as “Reports to” and click Next.
5. Next --> Next --> Save & New.



Activity 6: Creating Master-Detail Relationship between Employee & Asset Object

To Create a Master-Detail relationship

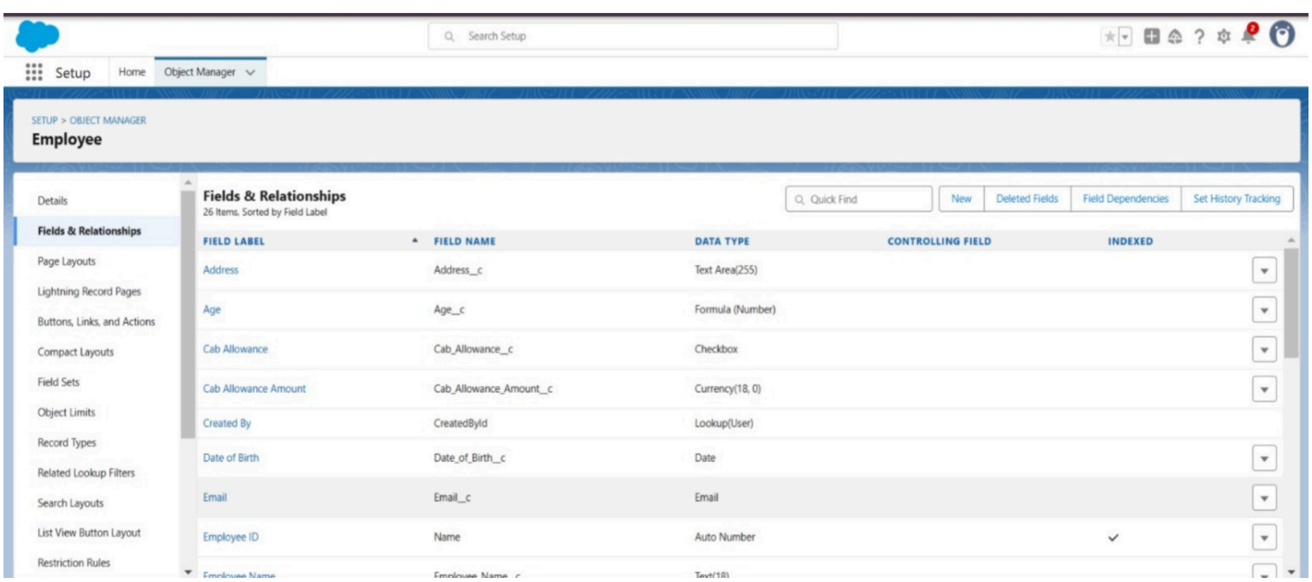
1. Go to the setup page --> click on object manager --> type object name(ProjectTask) in the quick find bar --> click on the object.
2. Click on fields & relationship --> click on New.
3. Select “Master-Detail relationship” as data type and click Next.
4. For field label related to: select “Employee” object and click Next.
5. Give Field Label as “Employee Name” and click Next.
6. Give Field Label as “Employee Name” and click Next.
7. Next --> Next --> Save & New.

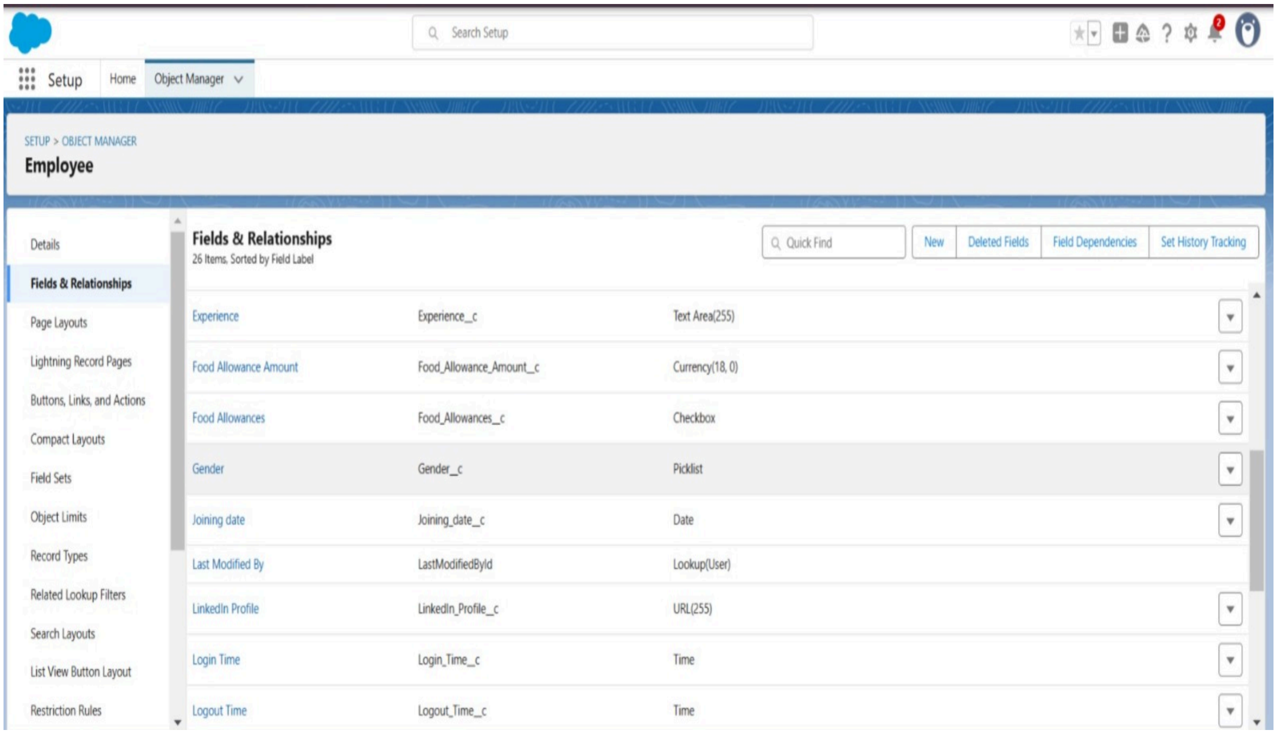


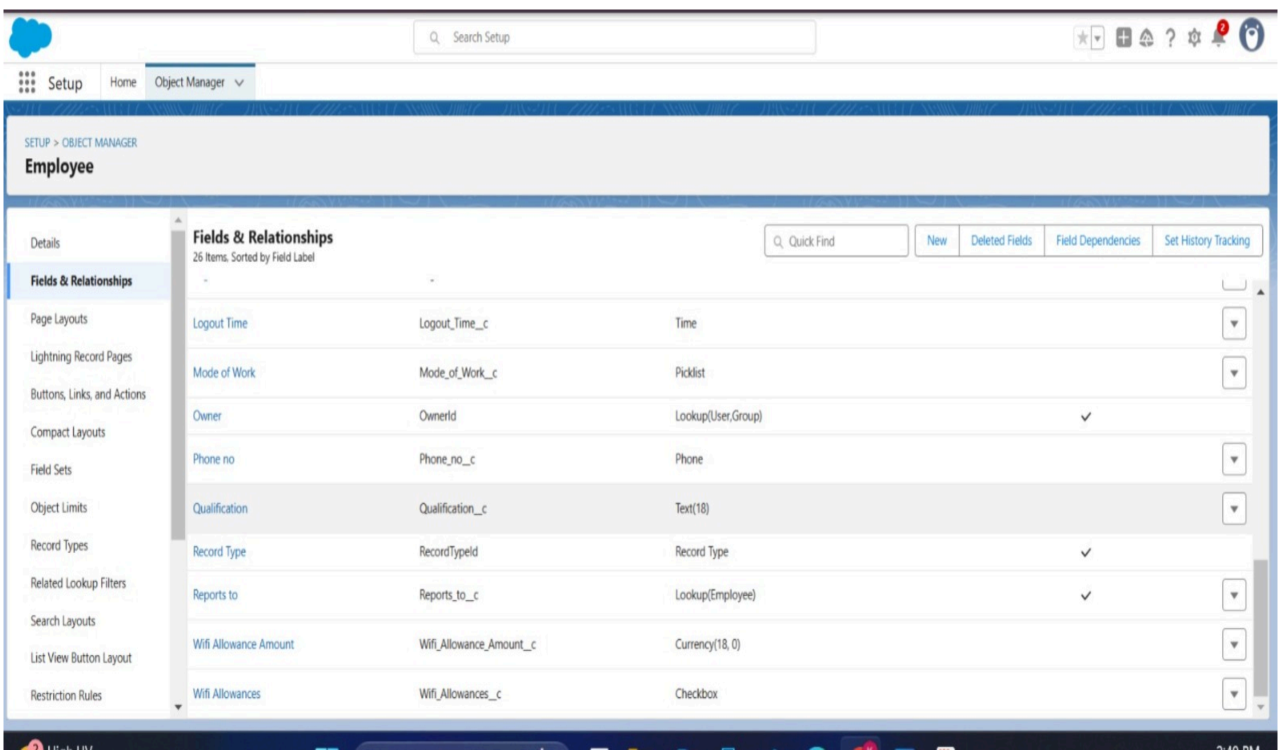
Activity 7: Creating Remaining Fields in Employee Object

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

1. Qualification (Text)
2. Address (Text Area)
3. Experience (Text Area)
4. Phone no (Phone)
5. Email (Email)
6. Joining date (Date)
7. Mode of Work Picklist (Values: Onsite, Remote)
8. Cab Allowances (Check box)
9. Food Allowances (Check box)
10. Wifi Allowances (Check box)
11. Cab Allowance Amount (Currency)
12. Food Allowance Amount (Currency)
13. Wifi Allowance Amount (Currency)
14. Login Time (Time)
15. Logout Time (Time)
16. LinkedIn Profile (url)




Search Setup
Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Employee
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Fields & Relationships
26 Items, Sorted by Field Label
Quick Find
New
Deleted Fields
Field Dependencies
Set History Tracking
Experience Experience_c Text Area(255)
Food Allowance Amount Food_Allowance_Amount_c Currency(18, 0)
Food Allowances Food_Allowances_c Checkbox
Gender Gender_c Picklist
Joining date Joining_date_c Date
Last Modified By LastModifiedById Lookup(User)
LinkedIn Profile LinkedIn_Profile_c URL(255)
Login Time Login_Time_c Time
Logout Time Logout_Time_c Time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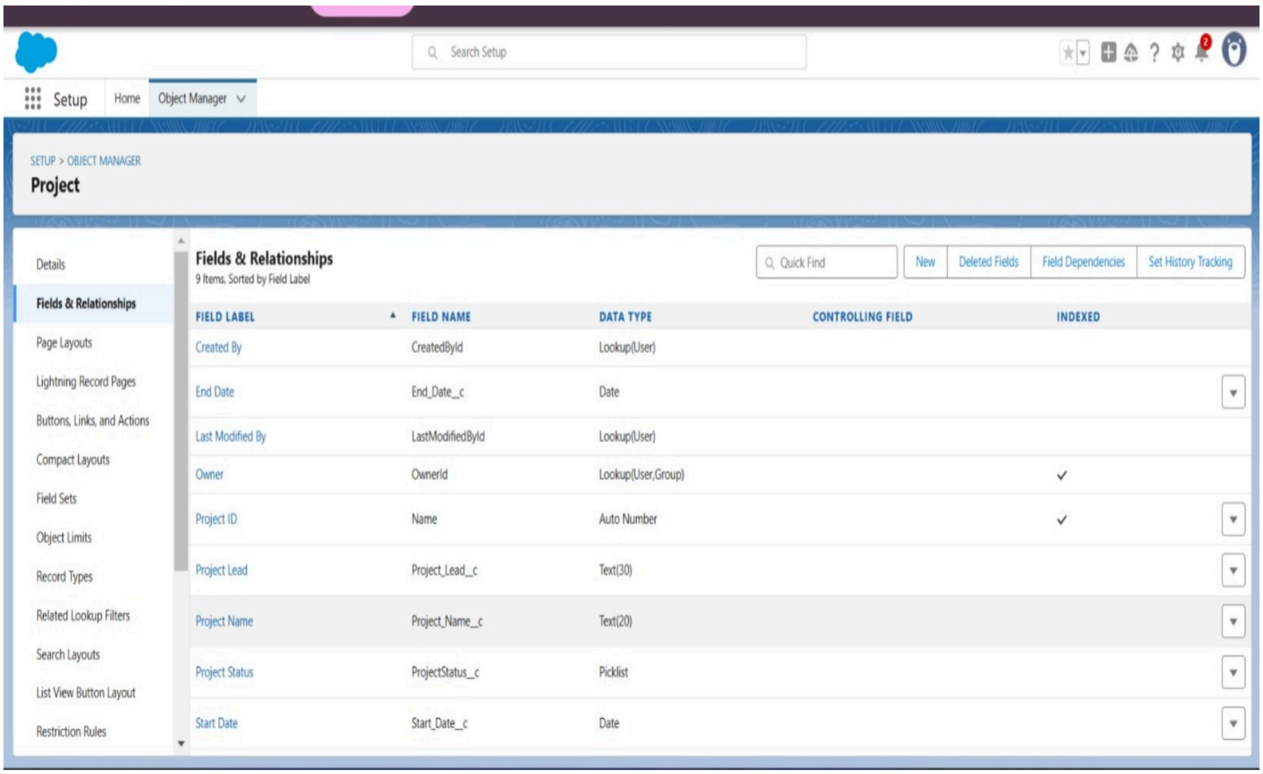
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Fields & Relationships
26 Items, Sorted by Field Label
Quick Find
New
Deleted Fields
Field Dependencies
Set History Tracking
Logout Time Logout_Time_c Time
Mode of Work Mode_of_Work_c Picklist
Owner OwnerId Lookup(User,Group)
Phone no Phone_no_c Phone
Qualification Qualification_c Text(18)
Record Type RecordTypeId Record Type
Reports to Reports_to_c Lookup(Employee)
Wifi Allowance Amount Wifi_Allowance_Amount_c Currency(18, 0)
Wifi Allowances Wifi_Allowances_c Checkbox

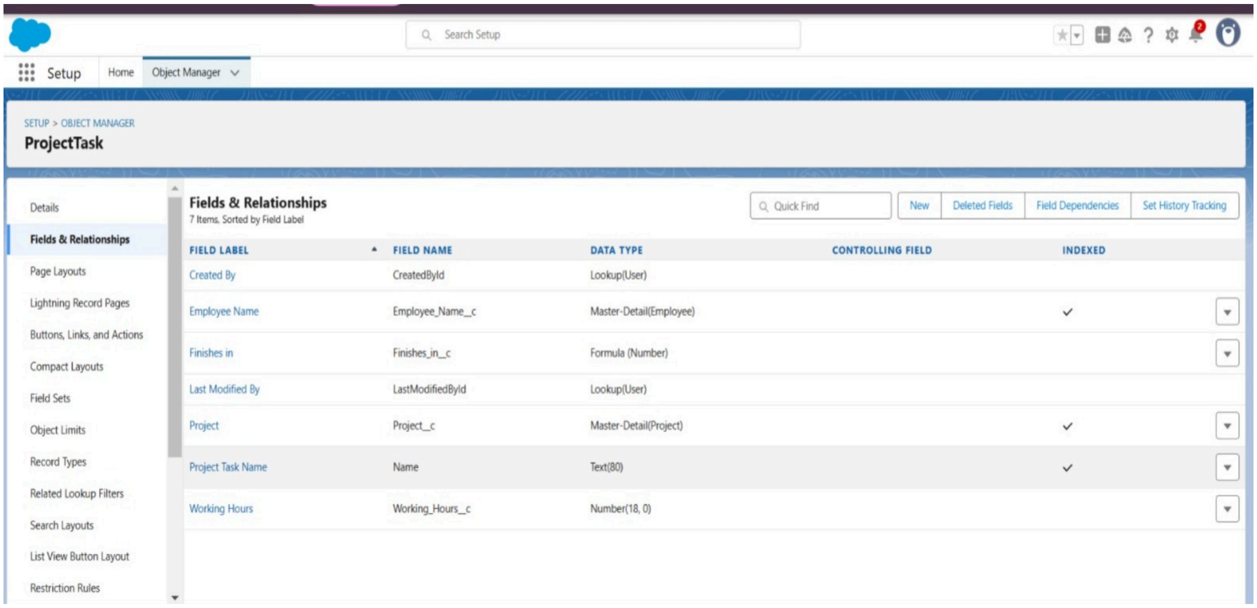
Now create the remaining fields in Project using the data types mentioned below.

1. Project Name (Text)
2. Project Lead (Text)
3. Start Date (Date)
4. End Date (Date)
5. Project Status (Picklist: Value - Completed, On Going, Not Yet Started)



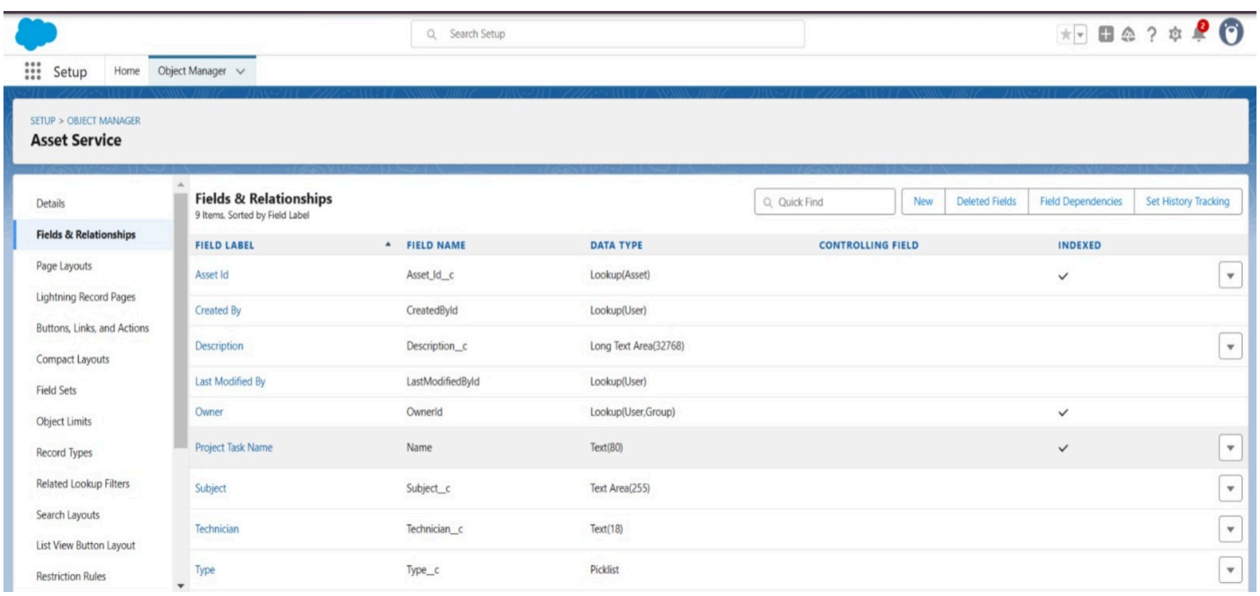
Now create the remaining fields in ProjectTask using the data types mentioned below.

1. Project Task (MDR)
2. Finishes in (Formula return type: Number)
3. Working Hours (Numbers)
4. Employee Name (MDR with Employee Object)



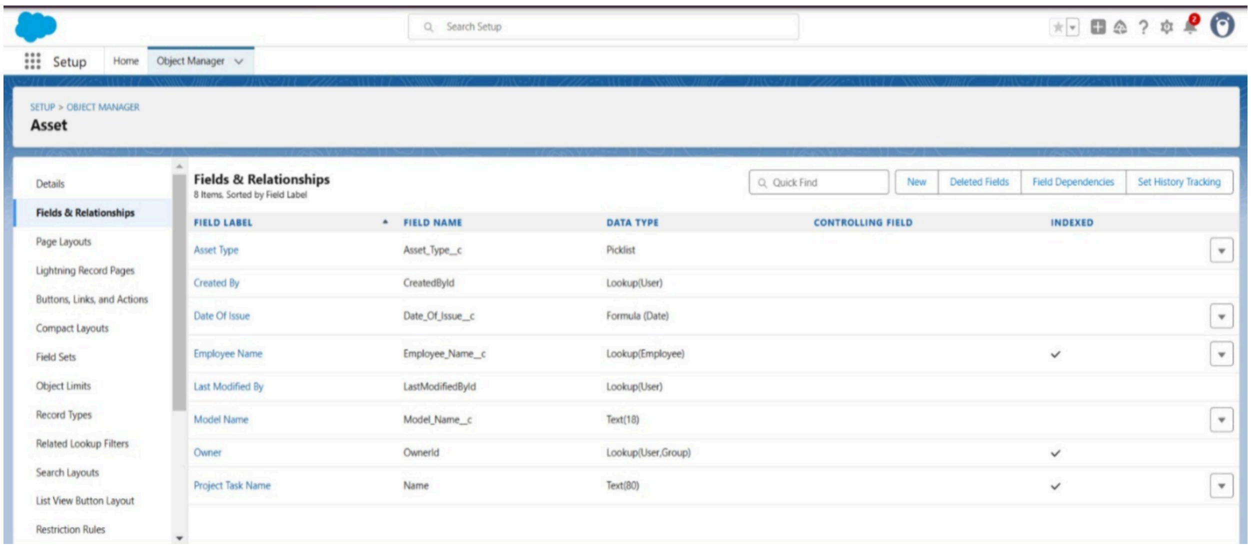
Now create the remaining fields in Asset Service using the data types mentioned below.

1. Asset Id (Lookup relationship with Asset object)
2. Type (Picklist: Values - Technical Issue, Non-Technical Issue)
3. Technician (Text)
4. Subject (Text Area)
5. Description (Text Long)



Now create the remaining fields in Asset using the data types mentioned below.

1. Asset Type (Picklist: Values – Laptop, Charger, Mouse, Monitor, CPU)
2. Model Name (Text)
3. Employee Name (Lookup relationship with Employee Object)
4. Date Of Issue (Formula (Joining date), Formula Return type: date)



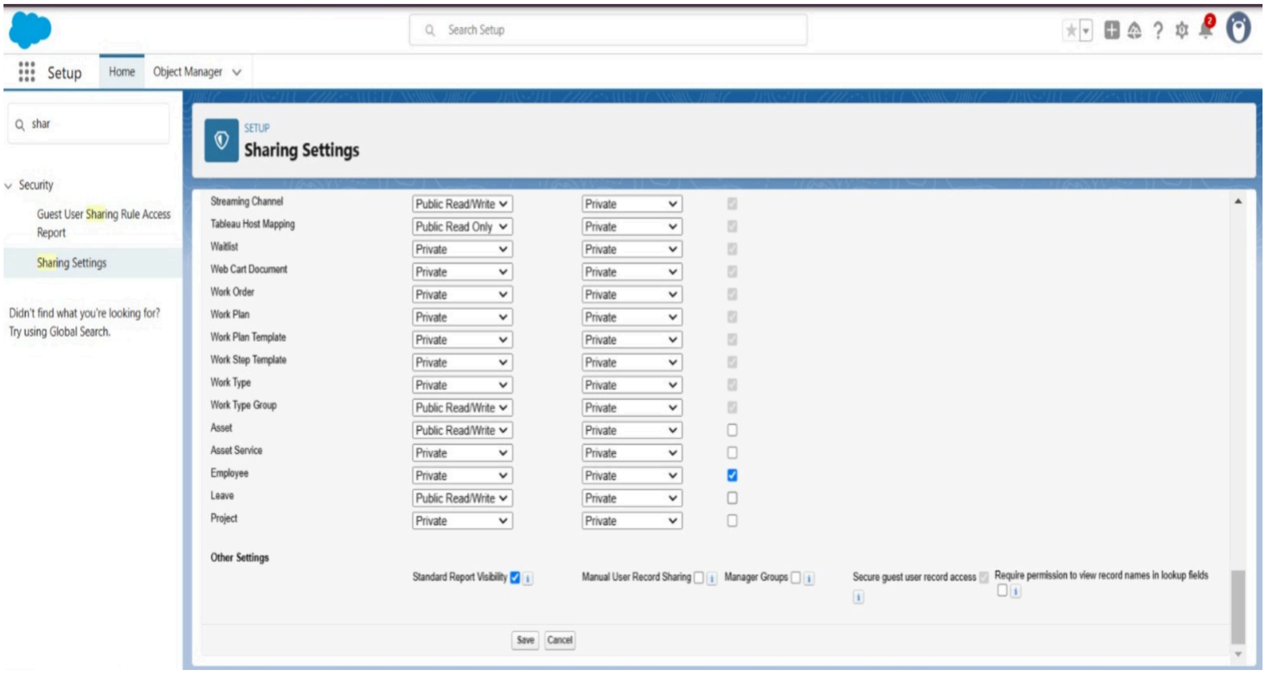
Setting OWD

Organization-Wide Defaults, or OWDs, are the pattern security rules that you can follow for your Salesforce instance. Organization Wide Defaults are utilized to confine who can access what information in your CRM.

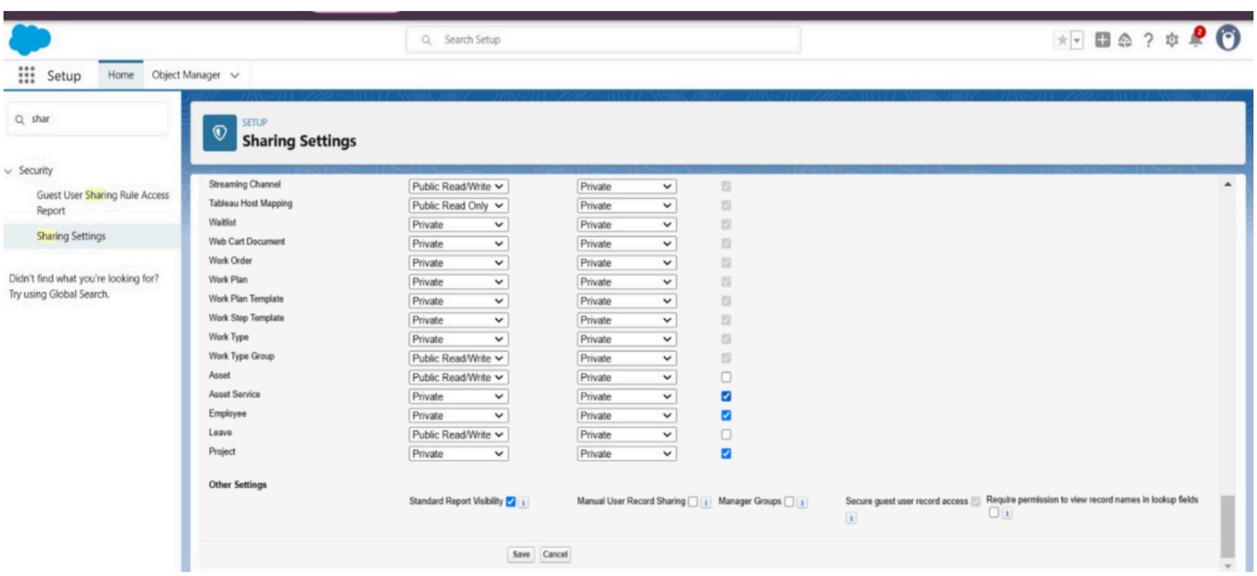
Create OWD Setting

1. Go to Set Up --> in the Quick Find box type "Sharing Settings" --> click on it.
2. Click Edit in the Organization-Wide Defaults area.
3. Search for the Employee object.
4. Under default internal access and default external access change the options to “Private” and under grant access using hierarchies select the check box.
5. Click on save.

6. This Setting is for all the Users Which have been Created.



Set OWD as Private for Project and Asset Service objects.



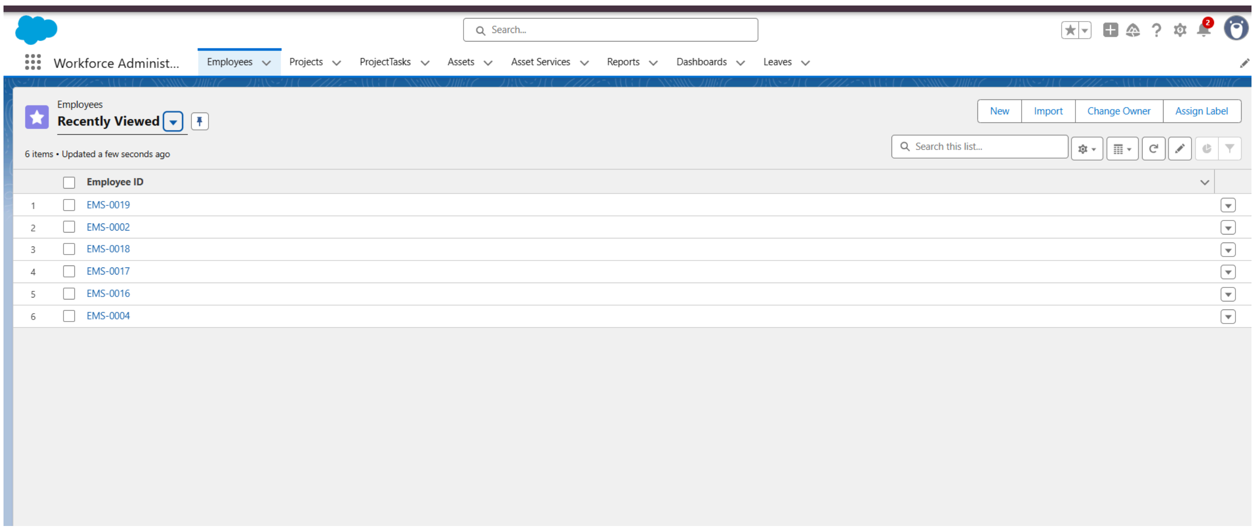
User Adoption

Create a Record (Employee)

1. Click on App Launcher on the left side of the screen.

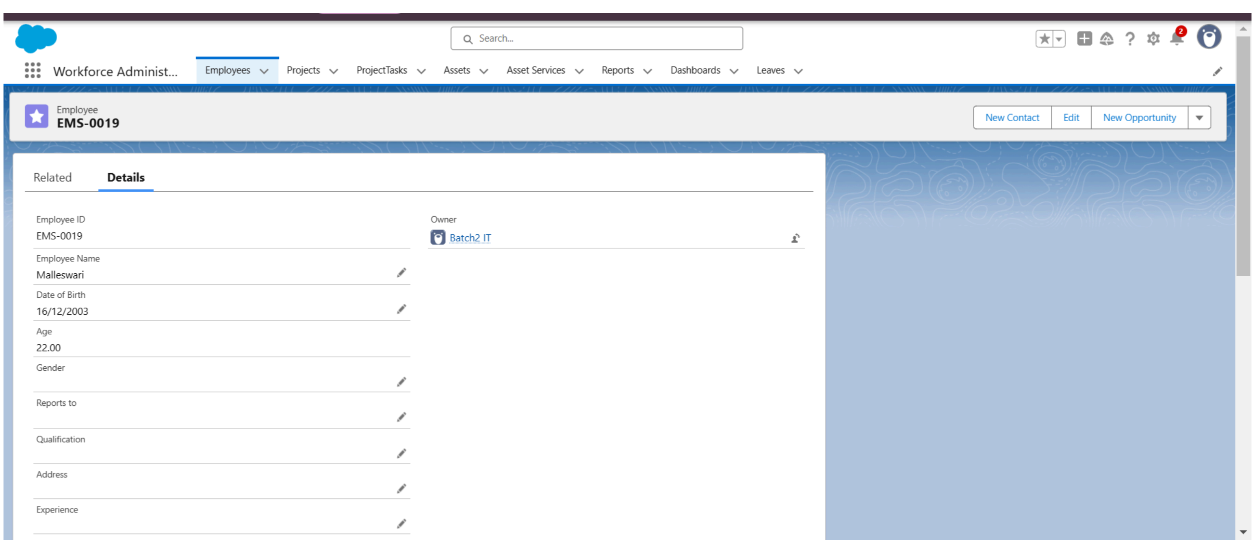
2. Search Workforce Administration Solution & click on it.

3. Click on the Employee tab.
4. Click New.
5. Fill the Details and click on Save.



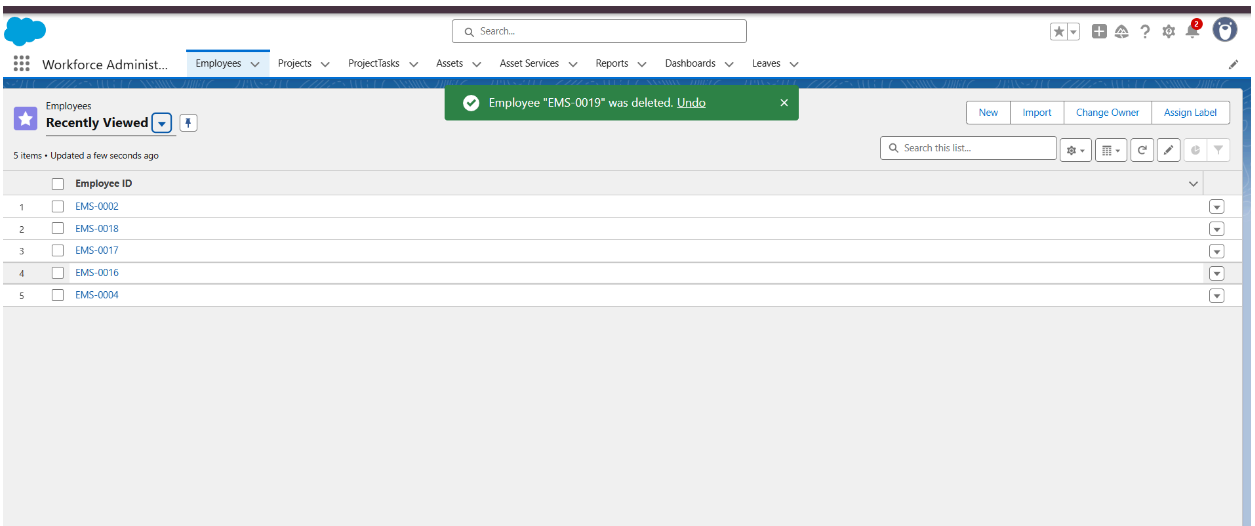
View a Record (Employee)

1. Click on App Launcher on the left side of the screen.
2. Search Workforce Administration Solution & click on it.
3. Click on the Employee Tab.
4. Click on any record name.you can see the details of the Employee.



Delete a Record (Employee)

1. Click on App Launcher on the left side of the screen.
2. Search Workforce Administration Solution & click on it.
3. Click on the Employee Tab.
4. Click on Arrow at right hand side on that Particular record.
5. Click delete.



Import Data

Before creating the application download this file from the URL given below and save the file in CSV.

https://tinyurl.com/SF-Employee-Data

Importing data using Data Wizard

1. From Setup, click the Home tab.
2. In the Quick Find box, enter Data Import and select Data Import Wizard.
3. Click Launch Wizard!
4. Click the Custom Objects tab and select the Employee object.
5. Select Add new records.
6. Click CSV and choose file Employee_CSV which we made earlier. Click Next.

7. Since the field names in the CSV file (CSV Header) are the same as the field names in your object (Mapped Salesforce Object), the fields are automatically mapped. Click Next.
8. The next screen gives you a summary of your data import. Click Start Import.
9. Click OK on the popup.
10. Scroll down the page and verify that your data has been imported under batches.
11. Make sure you have 0 records under the records failed column.

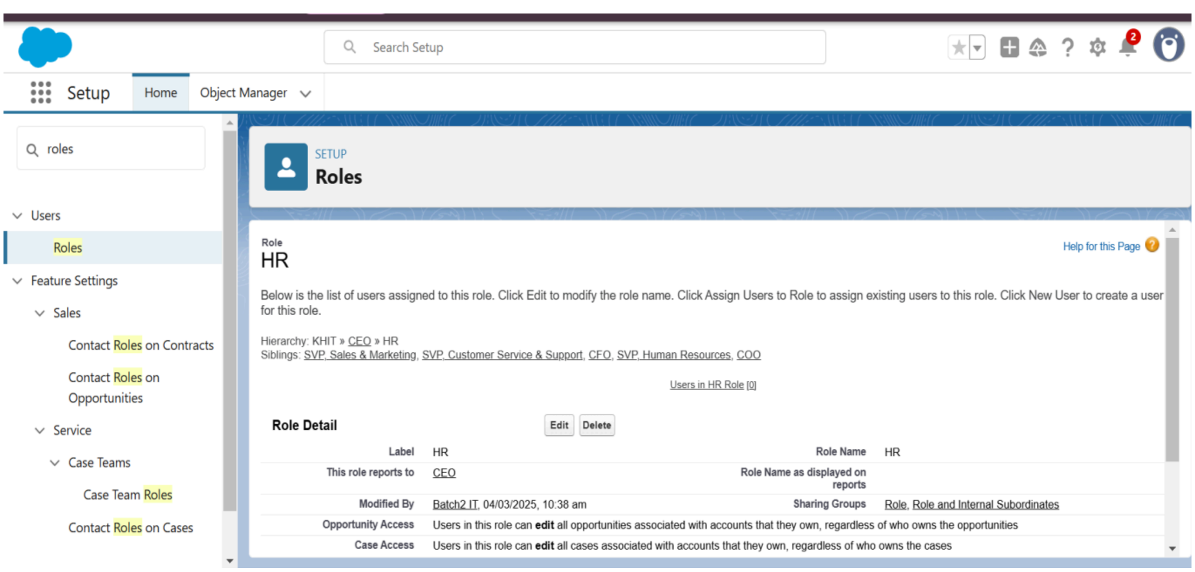
Profiles

A profile is a group/collection of settings and permissions that define what a user can do in salesforce

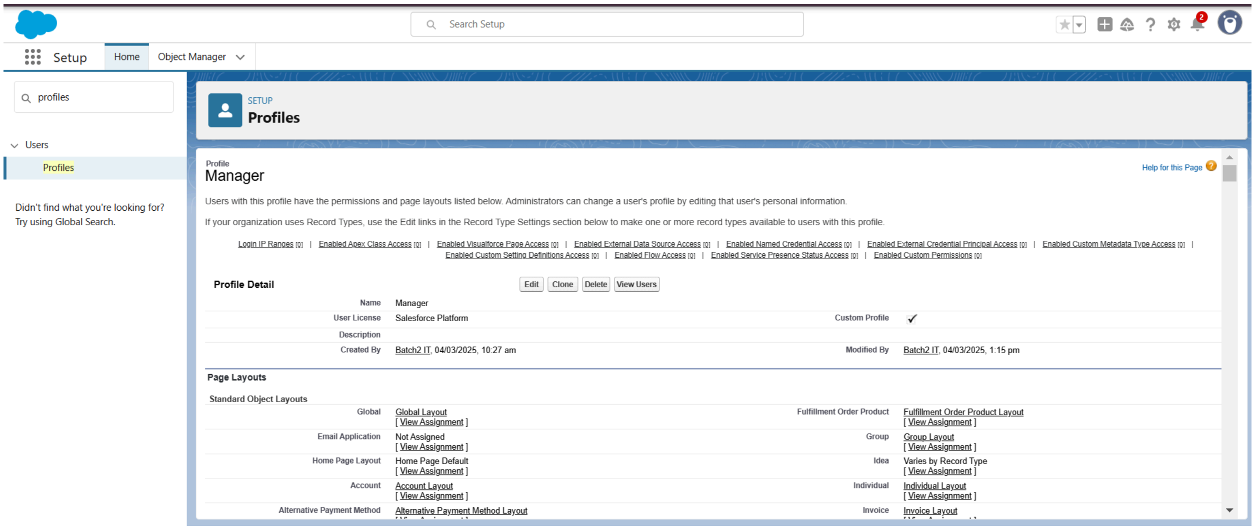
HR Profile

To create a new profile:

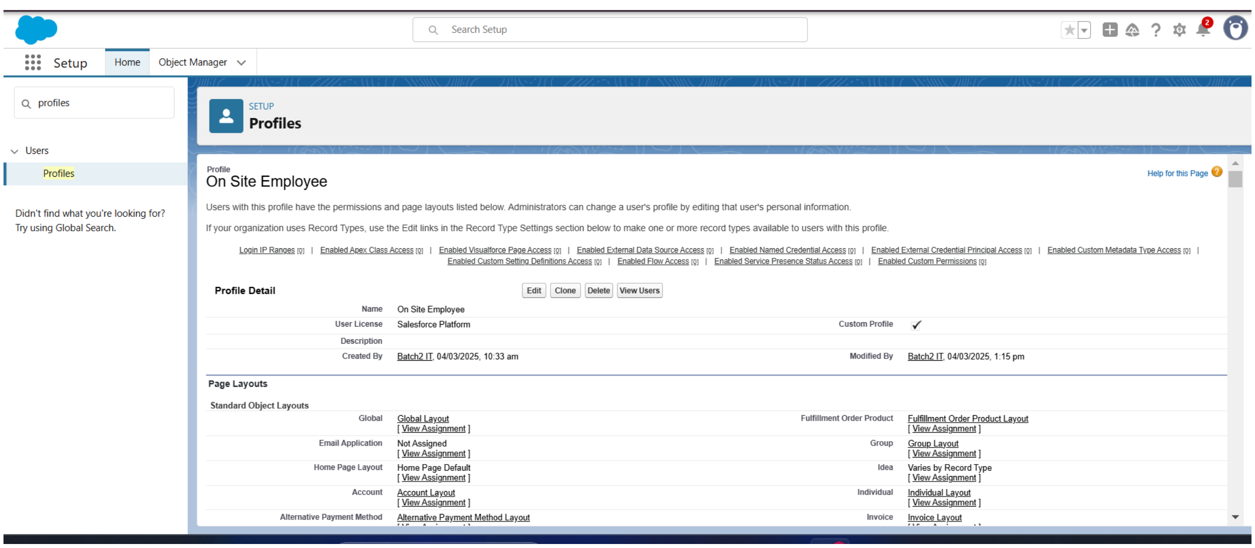
1. Go to setup --> type profiles in quick find box --> click on profiles --> clone the desired profile (Standard user) --> enter profile name (HR) --> Save.
2. While still on the profile page, then click Edit.
3. Scroll down to Custom Object Permissions and Give access permissions for Assets and Asset Services objects.
4. Scroll down and Click on Save.

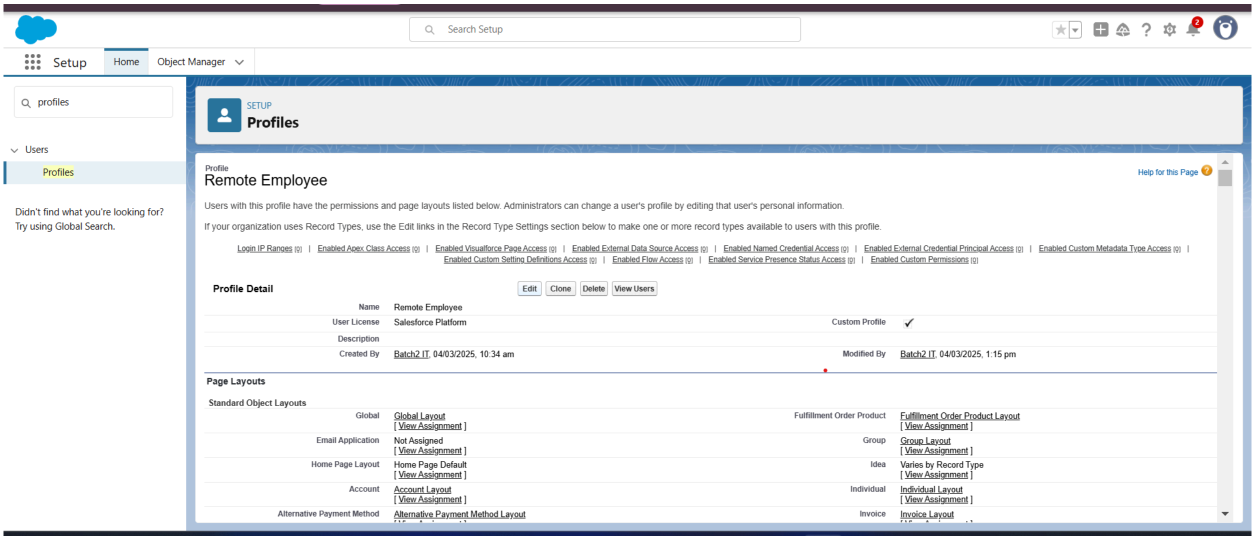


Manager Profile



Create Employee Profiles for “On Site Employee”,”Remote Employee” as in Activity 2, but in step 3 only allow permission access for Project and Project Task objects only.



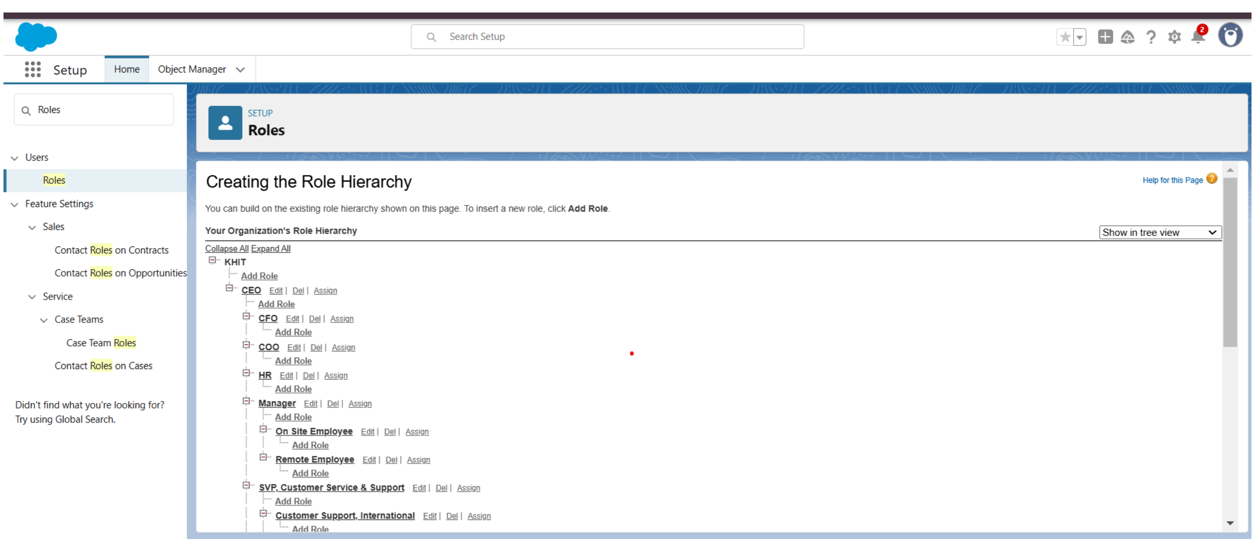


Role

Creating HR Role

1. Go to quick find --> Search for Roles --> click on set up roles.
2. Click on Expand All and click on add role under whom this role works.
3. Give Label as “HR” and Role name gets auto populated. Check to whom this role (HR) reports. Then click on Save.
4. Refer the below diagram to understand which role reports to which role.

Create three more roles for Manager, On Site Employee, Remote Employee.



Users

A user is anyone who logs in to Salesforce. Users are employees at your company.

Create User

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

   First Name : Niklaus

   Last Name : Mikaelson

   Alias : Give a Alias Name

   Email id : Give your Personal Email id

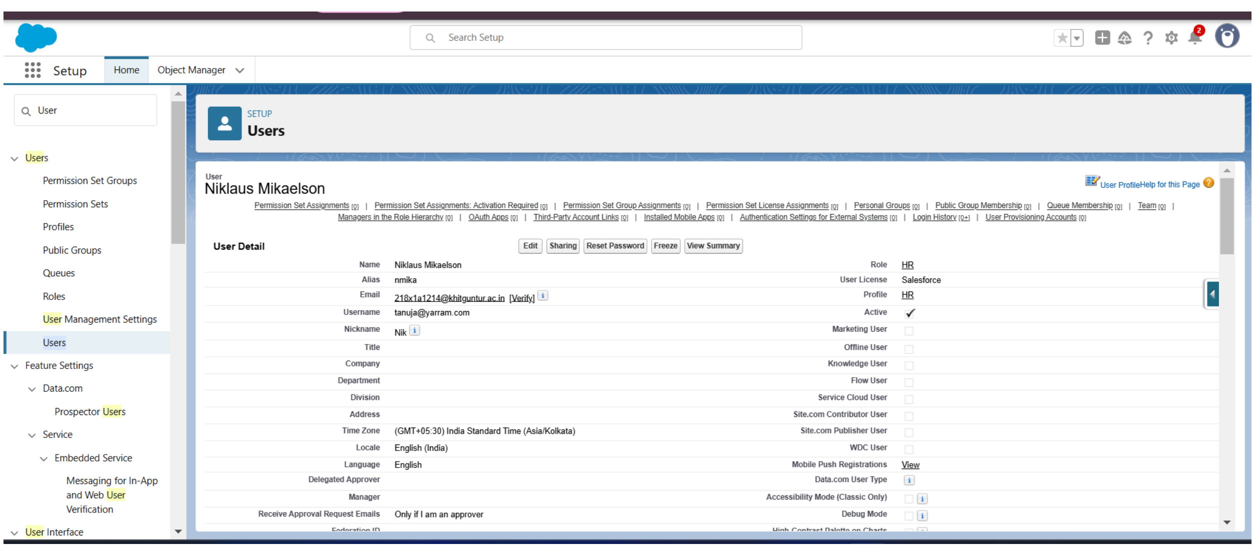
   Username : Username should be in this form: text@text.text

   Nick Name : Give a Nickname

   Role : HR

   User license : Salesforce

   Profile : HR
3. Save.



Creating another user

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

   First Name : Kol

   Last Name : Mikaelson

   Alias : Give a Alias Name

   Email id : Give your Personal Email id

   Username : Username should be in this form: text@text.text

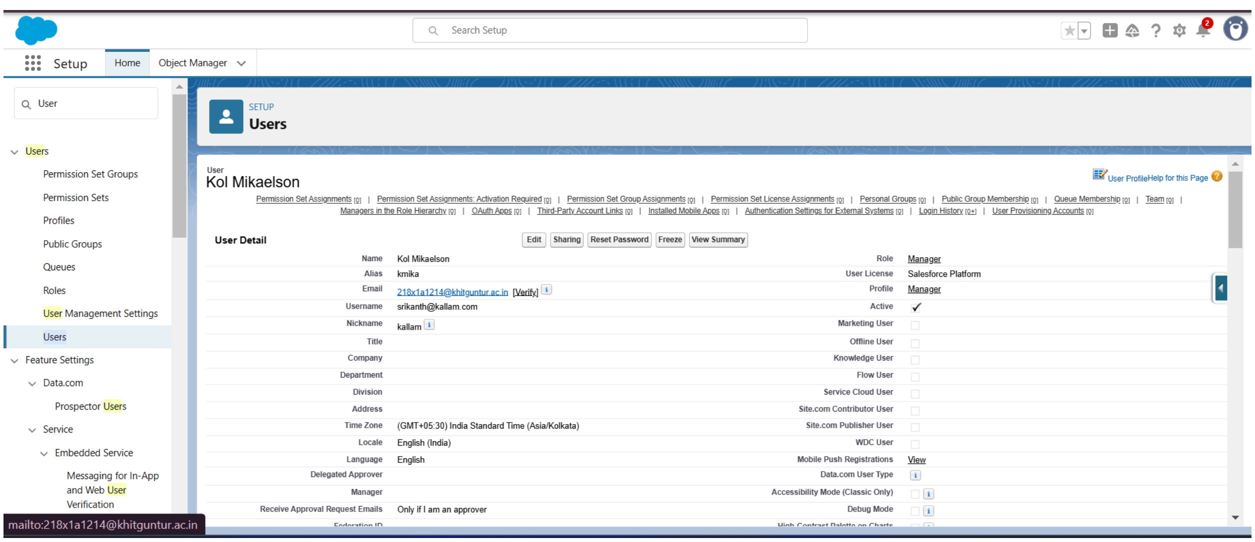
   Nick Name : Give a Nickname

   Role : Manager

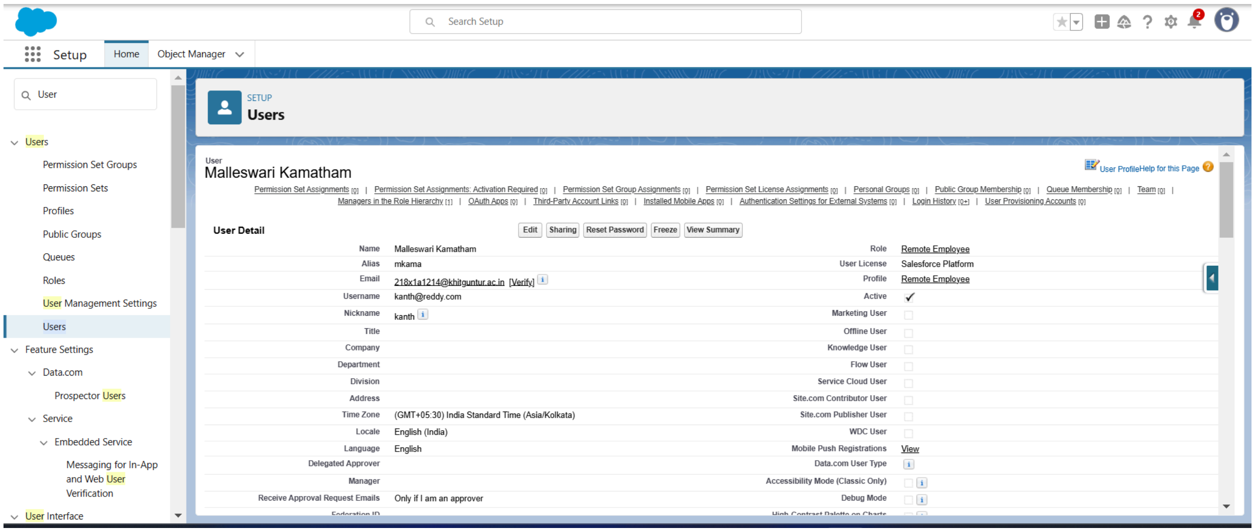
   User license : Salesforce Platform

   Profiles : Manager

3. Save



Create two more users as we created in activity 2.

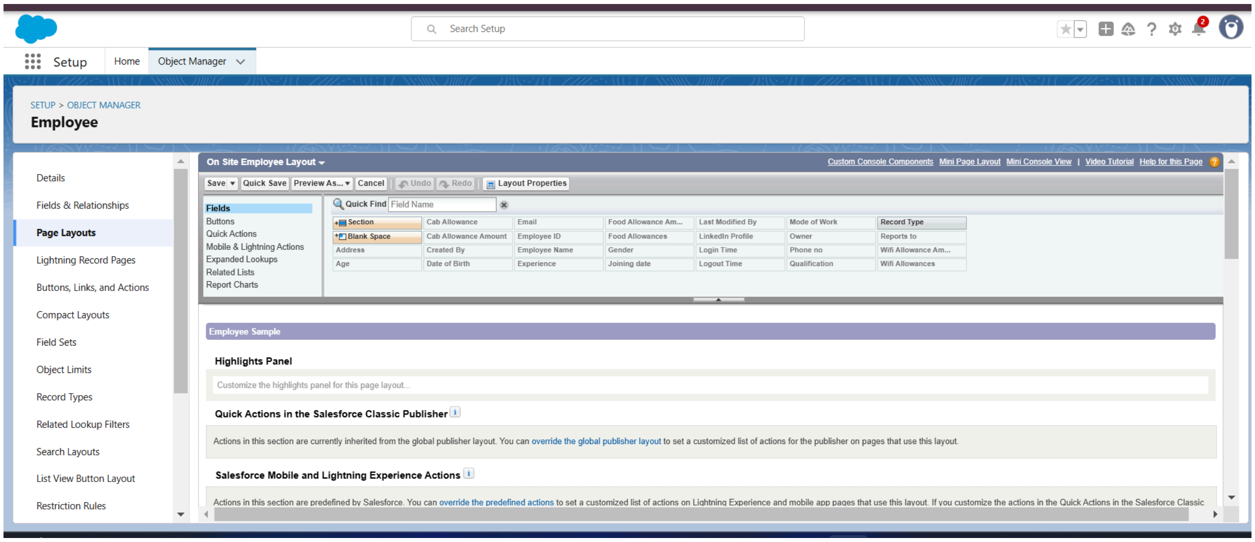


Page layouts

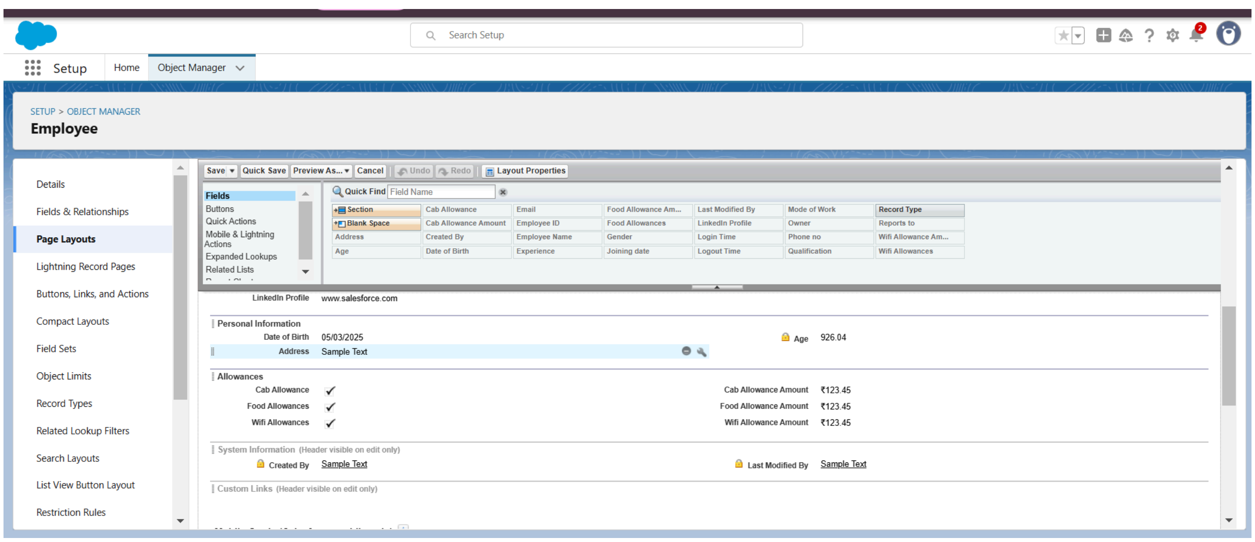
Creating a Page Layout for Employee object

To Create a Page layout:

1. Go to Setup --> Click on Object Manager --> Search for the object (Employee) --> From drop down click on Edit.
2. Click on Page layout --> Click on New. Give Page layout Name as "On Site Employee Layout" and click on Save.
3. Drag and drop the Section from the highlight panel below the Information and name it as "Personal Information" and click Ok.
4. Drag Date of Birth, Address and Age fields from Employee Information to Personal Information section.
5. Similarly perform the above step to create "Allowances" and add allowances fields in it as shown below.
6. Click Save.
7. Make sure your page layout looks like the picture above.



Create another page layout and name it as “Remote Employee Layout”, and in the allowances section use only Wifi Allowance and Wifi Allowances Amount fields.



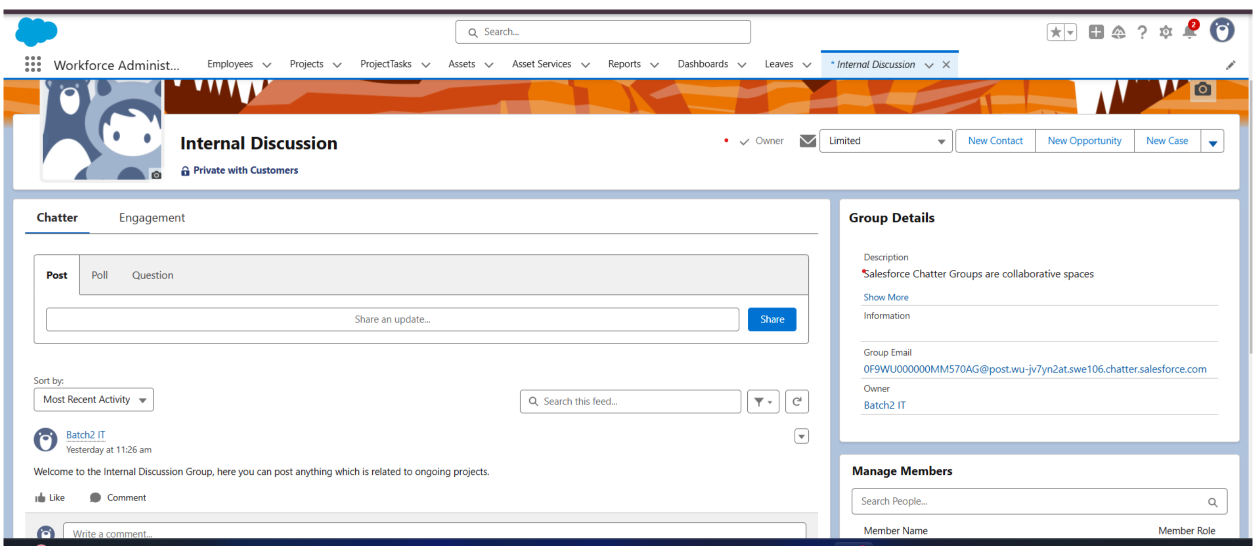
Chatter Group

Creating a Chatter group for your Organization

1. Click the App Launcher.
2. Enter Groups in the Search apps and items... box and select Groups.
3. Click New.

4. Fill in the new group information with these details:

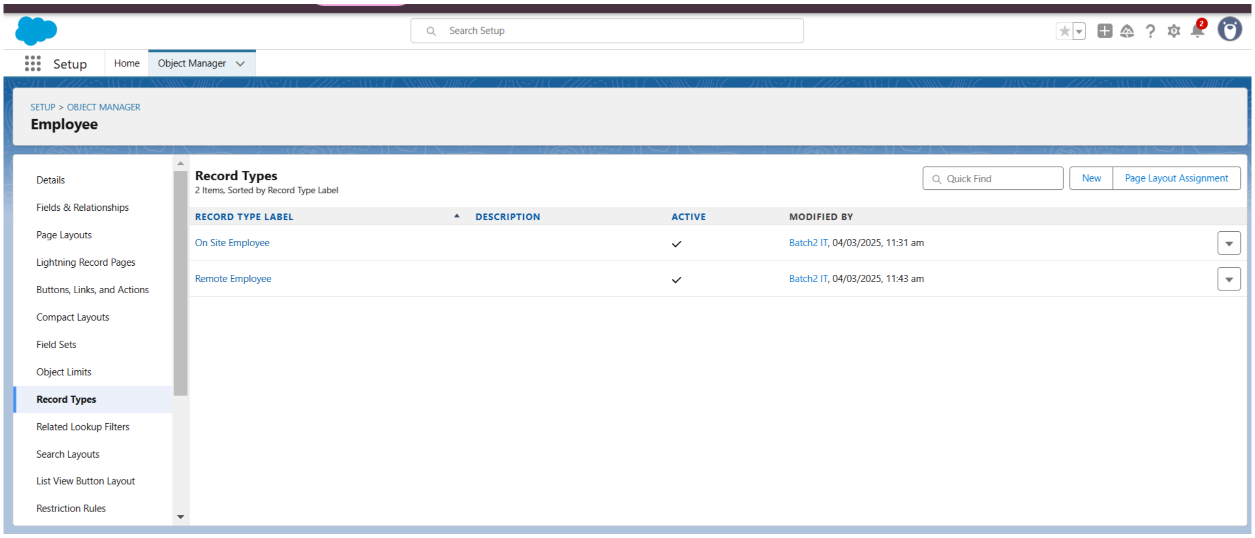
   Group Name (Group Name)
   Description (understanding Description on your own)
   Access Type (Private)
   Allow Customers (Checked)
5. Click Save & Next. Skip the Upload Picture section and click Next.
6. On the Manage Members screen, click Add next to users you created in the previous activity
7. Click Done.
8. This is how your group interface looks like.
9. Where it says Share an update, post this message to the group: Welcome to the Internal Discussion Group, here you can post anything which is related to ongoing projects.
10. Click Share



Record Types

Record Types are a way of grouping many records of one type for that object.

Creating On Site Employee and Remote Employee Record Type



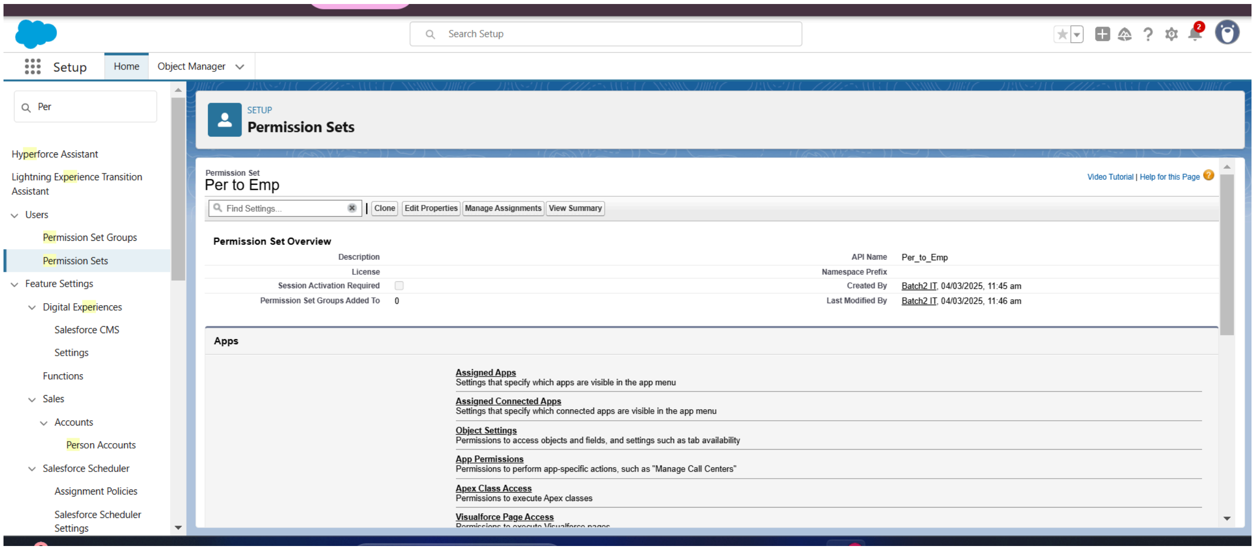
Permission sets

A permission set is a collection of settings and permissions that give users access to various tools and functions

Creating a permission set

1. Go to setup --> type "permission sets" in quick search --> select permission sets --> New.
2. Enter the label name as "Per to Emp" --> Save.
3. Under Apps Select object settings.
4. Click on Employee object --> click on Edit --> under object permission check for read and create.
5. Click on Save.
6. After saving the permission click on the Manage assignment
7. Now click on the Manage Assignment.
8. Click on Add Assignment.

9. Now select the users (any one user with the profile "On Site Employee") and click on Next.
10. Click on Assign
11. Click on Done.



Reports

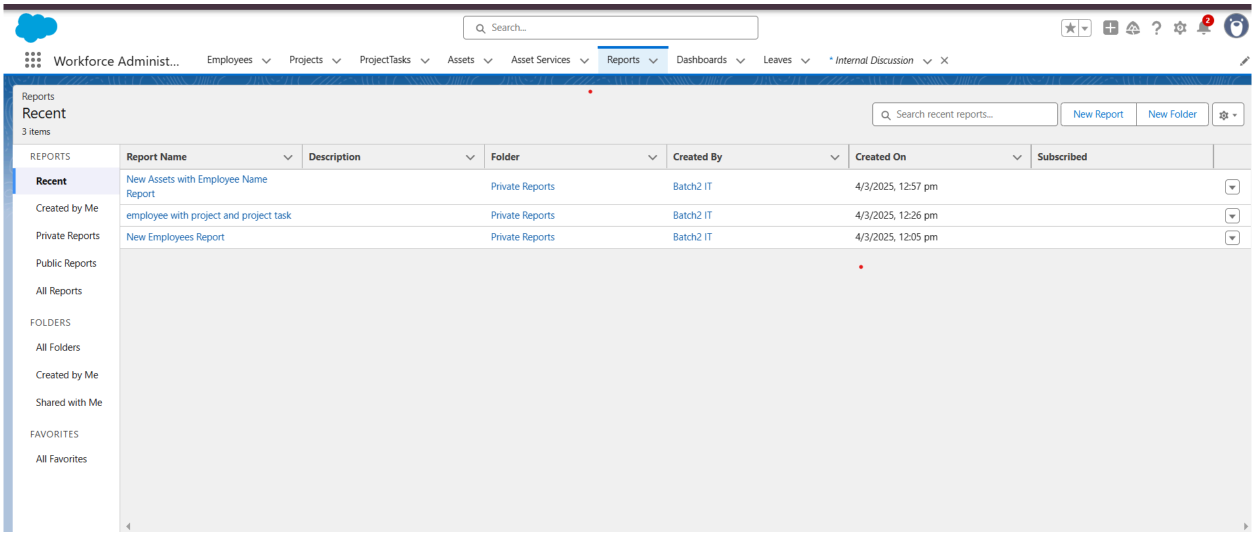
Reports give you access to your Salesforce data. You can examine your Salesforce data in almost infinite combinations, display it in easy-to-understand formats

Create Report

1. Go to the app --> click on the reports tab
2. Click New Report
3. Select report type from category or from report type panel or from search panel --> click on start report.
4. Customize your report --> Add fields from left pane as shown below
5. Save or run it.

Create a report with report type: "Employees with ProjectTasks and Projects".

Create a report with report type: "Employees with Assets".

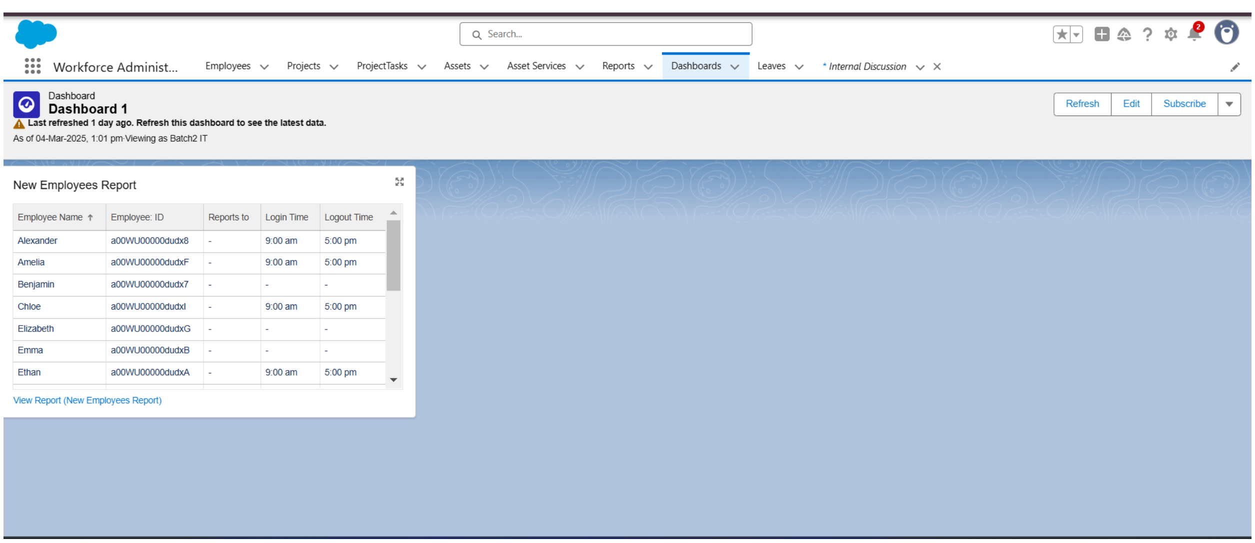


Dashboards

Dashboards help you visually understand changing business conditions so you can make decisions based on the real-time data you've gathered with reports.

Create Dashboard

1. Go to the app --> click on the Dashboards tabs.
2. Give a Name and click on Create.
3. Select add component.
4. Select a Report and click on select.



Approval Process

Create the leave object and Tab

Create an Approval Process for Leave object.

1. Go to Setup --> type Approval Processes in quick find --> click on Approval Processes.
2. In the Manage Approval Processes For list, select Leave.
3. Click Create New Approval Process and select Use Jump Start Wizard.
4. Enter the following parameters

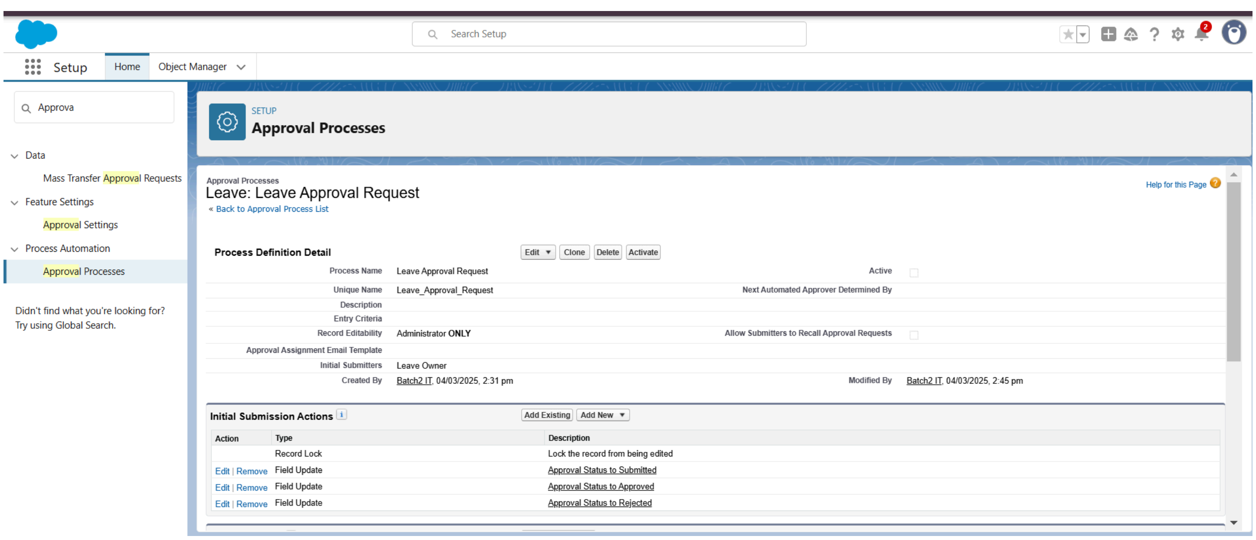
   Name (Leave Approval Request)

   Approval Assignment Email Template (Leave blank)
5. Click Save.
6. Click View Approval Process Detail Page.

Initial Submission Action

Final Approval Action

Final Rejection Action



5.Testing and Validation

Apex Trigger

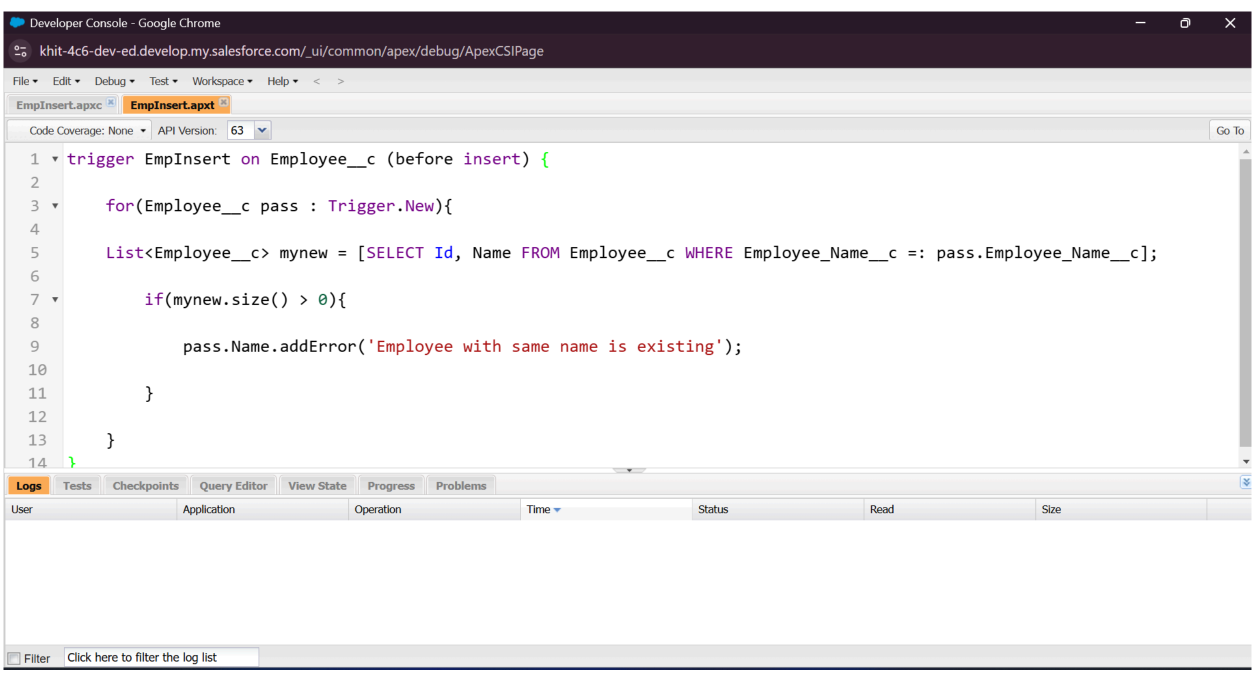
Create an Apex Trigger

1. To create a new Apex Class follow the below steps: Click on the file --> New --> Apex Class.
2. Give the Apex Trigger name as "EmpInsert", and select "Employee__c" from the dropdown for sObject.
3. Click Submit.
4. Now write the code logic here

   Code Snippet:

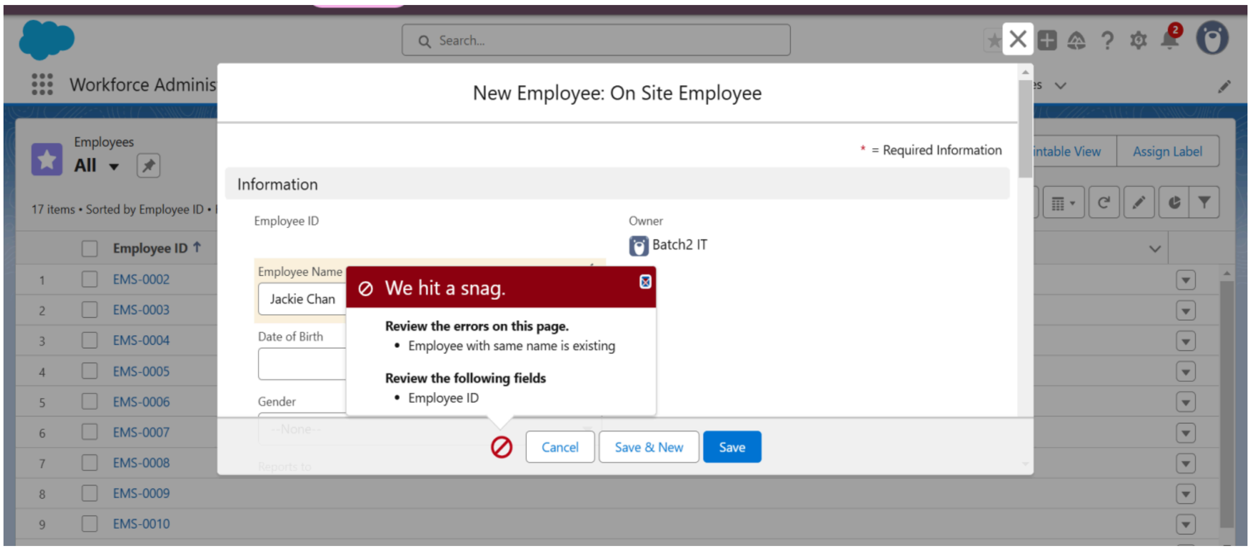
```
trigger EmpInsert on Employee__c (before insert) {
for(Employee__c pass : Trigger.New){
List<Employee__c> mynew = [SELECT Id, Name FROM Employee__c
WHERE Employee_Name__c =: pass.Employee_Name__c];
        if(mynew.size() > 0){
pass.Name.addError('Employee with same name is existing);
    }
  }
}
```

5. Save the code.(click on file --> Save)



Testing the Trigger

Follow the steps which are mentioned in User Adoption, Activity 1 and try to create a record with the existing Employee Name say “Jackie Chan” you’ll face the error while saving the record saying “Employee with same name is existing ”.



6.Key Scenarios Addressed by Salesforce in the Implementation Project

Here are some key scenarios addressed by Salesforce in the implementation project for Workforce Administration Solution development:

Scenario 1: Employee Data Management

Challenge: Managing employee data, including personal, job, and benefits information.

Solution: Salesforce implements Employee Data Management using custom objects, fields, and page layouts to store and manage employee data.

Scenario 2: Time-Off Management

Challenge: Managing employee time-off requests, approvals, and tracking.

Solution: Salesforce implements Time-Off Management using custom objects, workflows, and approval processes to manage time-off requests.

7.Conclusion

The development of a Workforce Administration solution within Salesforce provides organizations with a powerful, scalable, and integrated approach to manage and optimize their workforce processes. By leveraging Salesforce's cloud-based platform, businesses can automate key workforce tasks such as employee onboarding, time and attendance tracking, performance management, and scheduling.

Through the integration of various Salesforce tools like Salesforce Service Cloud, Salesforce Lightning, and Salesforce AppExchange, a custom Workforce Administration solution can be tailored to meet the unique needs of any business, ensuring data security, scalability, and flexibility. Additionally, with the use of automation features, reporting tools, and analytics, organizations can improve decision-making and ensure that they are making the most of their human capital.

Moreover, the adoption of such a solution promotes a streamlined and cohesive user experience by providing a single platform for both HR and workforce management functions. This leads to greater collaboration, improved operational efficiency, and enhanced employee satisfaction.

Ultimately, a Workforce Administration solution developed on Salesforce can not only enhance day-to-day operations but also support strategic growth and long-term sustainability by enabling organizations to respond quickly and effectively to workforce challenges.