Capstone Project Report

On

“**Travel Approval App**”

GitHub Link: https://github.com/sakam-swetha/Project.git

Submitted by:

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LMS Id: MGSA_538
Date: 28/02/2023

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Abstract

Salesforce, Inc. is an American cloud-based software company headquartered in San Francisco, California. It provides customer relationship management (CRM) software and applications focused on sales, customer service, marketing automation, analytics, and application development.

Salesforce's main technologies are tools for customer management. Other products enable customers to create apps, integrate data from other systems, visualize data, and offer training courses.

Force.com applications are built using declarative tools, backed by Lightning and Apex, a proprietary Java-like programming language for Force.com, as well as Visualforce, a framework including an XML syntax typically used to generate HTML. The Force.com platform typically receives three complete releases a year. As the platform is provided as a service to its developers, every single development instance also receives all these updates.

Every travel organization requires a Travel Approval Application. This department deals with the approval of travel requests. It also allows for prime levels of control and oversight over travel bookings, policy and budget. The approval process is usually often lengthy and requires a lot of paperwork. It requires so much of time and work efforts to complete it. To eradicate human errors and achieve perfect data and procedures, the use of software is considered a smart choice.

Therefore, with the help of Customer Relation Management (CRM) software services provided by Salesforce, we are making a travel approval application. It starts with building of data model where the objects and fields comes into picture follows by customizing the user interface where we Use list views and page layouts to streamline an app user's experience. Every application generally needed a business logic so in this it is achieved by validation rules , formula fields and approval process. Finally, to analyse travel approvals we add reports and dashboards. This application will help them in keeping track of the complete travel approval process.

Introduction

Salesforce is a cloud-based software company that provides its customers with a platform to develop their own applications without following the tough steps that they used to follow in the legacy system. The software or application once created can be uploaded onto the cloud allowing the end-users to view them.

Salesforce is currently providing various software solutions and platforms for developers to create and distribute custom software/applications. Tech giants like Google, Twitter, Amazon, and Facebook are using Salesforce either in the form of SaaS or PaaS.

Salesforce developers can make an application on the cloud and share it with multiple companies across multiple domains by using Salesforce.

Talking about HR systems, every company across the globe has an HR team. Each HR team would require an HR application to store employee records. Almost all specifications for such an application would be common for all companies. So, as a developer, it would be very easy to create a Salesforce application for such specifications, post it onto the cloud, and provide it as a service to multiple clients at the same time. Maintenance of the same can be done altogether too. So basically, the problem of scalability gets eliminated.

Flow of the Project

The flow of the Travel Approval App for Salesforce typically involves several steps , which are as follows:

1. Travel Request Submission: Sales representatives submit travel requests using the Travel Approval App within the Salesforce platform. The request includes details such as travel dates, destinations, budgets, and purpose.

Automated Routing of Requests: The app automatically routes the travel request to the appropriate approvers based on predefined rules and workflows. This ensures that requests are reviewed by the right people, in the right order.

1. **Review and Approval:** Approvers receive notifications when a travel request requires their approval. They can review the request details and approve or reject it within the app.

2. **Notification and Feedback**: Sales representatives are notified of the approval or rejection of their travel request. If rejected, the app may allow the representative to revise and resubmit the request.

3. **Real-Time Reporting**: The app provides real-time visibility into travel requests and approvals, allowing sales managers to monitor travel spend and make informed decisions about their teams' travel plans.

Overall, the Travel Approval App for Salesforce automates and streamlines the travel request and approval process, providing a seamless experience for sales representatives and managers while ensuring compliance and costeffectiveness.

Software Requirements

For the fastest and most stable experience, we recommend:

- An Octane 2.0 score of 30,000 or greater
- Network latency of 150 ms or less
- Download speed of 3 Mbps or greater
- At least 8 GB of RAM, with 3 GB available for Salesforce browser tabs

Minimum requirements are:

- An Octane 2.0 score of 20,000 or greater
- Network latency of 200 ms or less
- Download speed of 1 Mbps or greater
- At least 5 GB of RAM, with 2 GB available for Salesforce browser tabs

OR

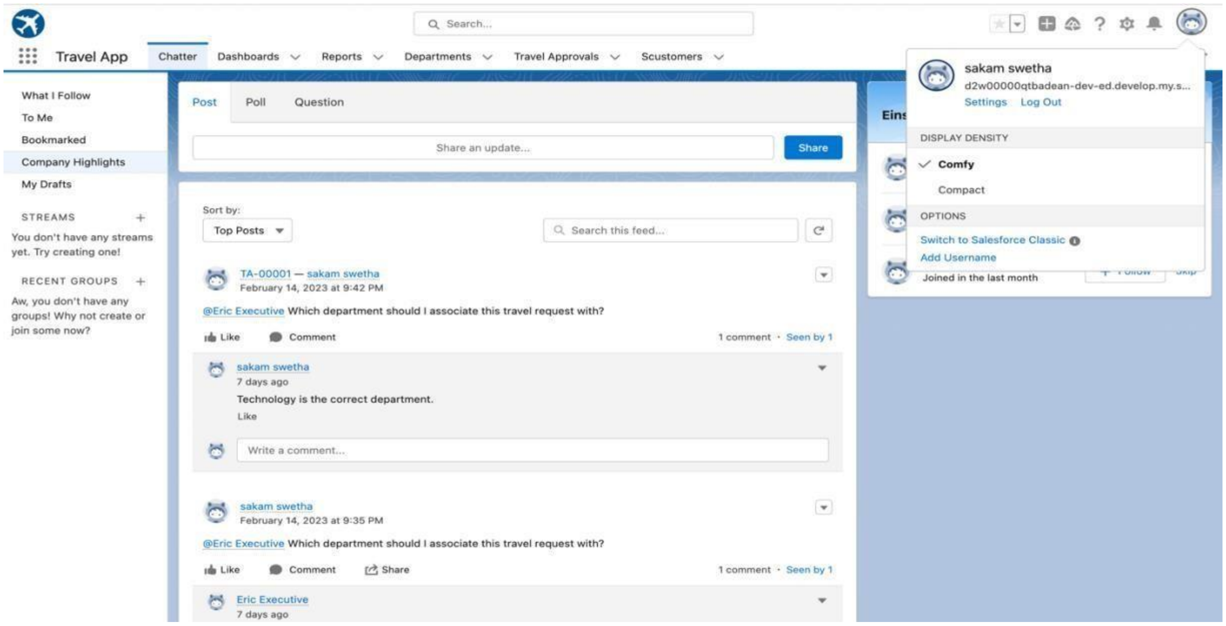
Requirements	
Windows	
Operating system	Windows 8.1 64-bit, Windows 8 64-bit, Windows 7 Service Pack 1 64-bit, Windows Vista Service Pack 2 64-bit
CPU	Core 2 Quad Q6600 at 2.4 GHz or AMD Phenom 9850 at 2.5 GHz
Memory	4 GB RAM
Free space	65 GB of free space
Graphics hardware	DirectX 10-compatible GPU: GeForce 9800GT 1GB or ATI Radeon HD 4870 1GB
Sound hardware	DirectX 10 compatible sound card

Screenshots Module 1

Exercise 1 :-

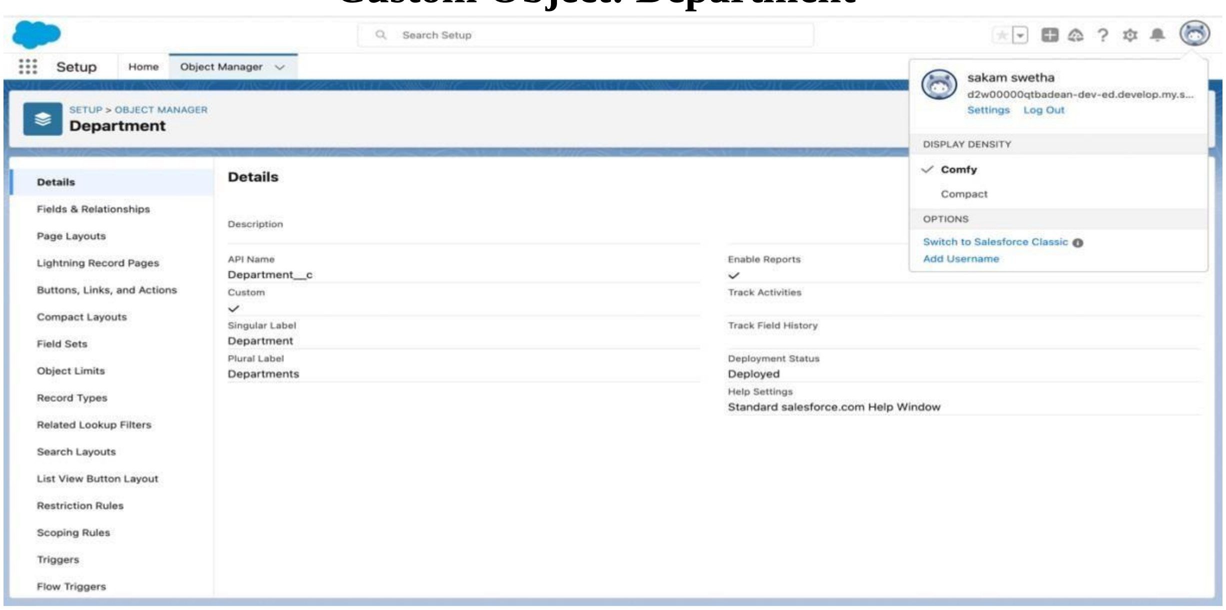
STEP 1:

Creating Lightning App: Travel App



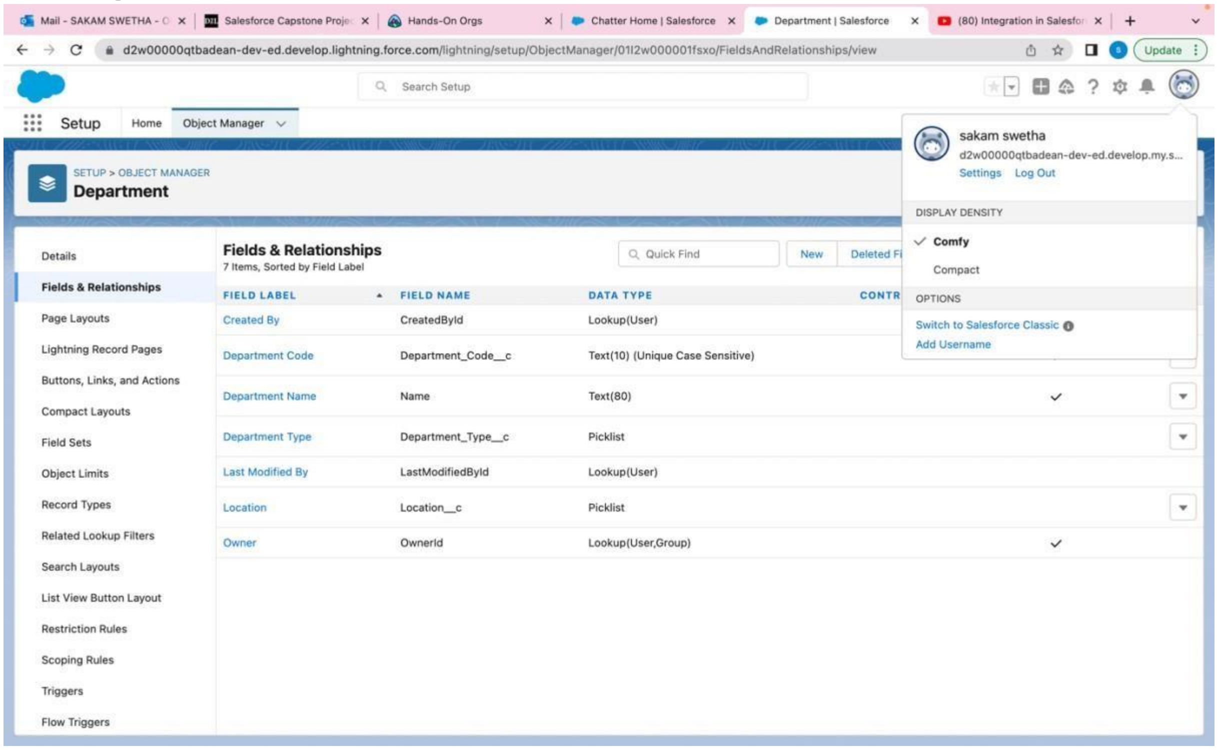
STEP 2:

Custom Object: Department

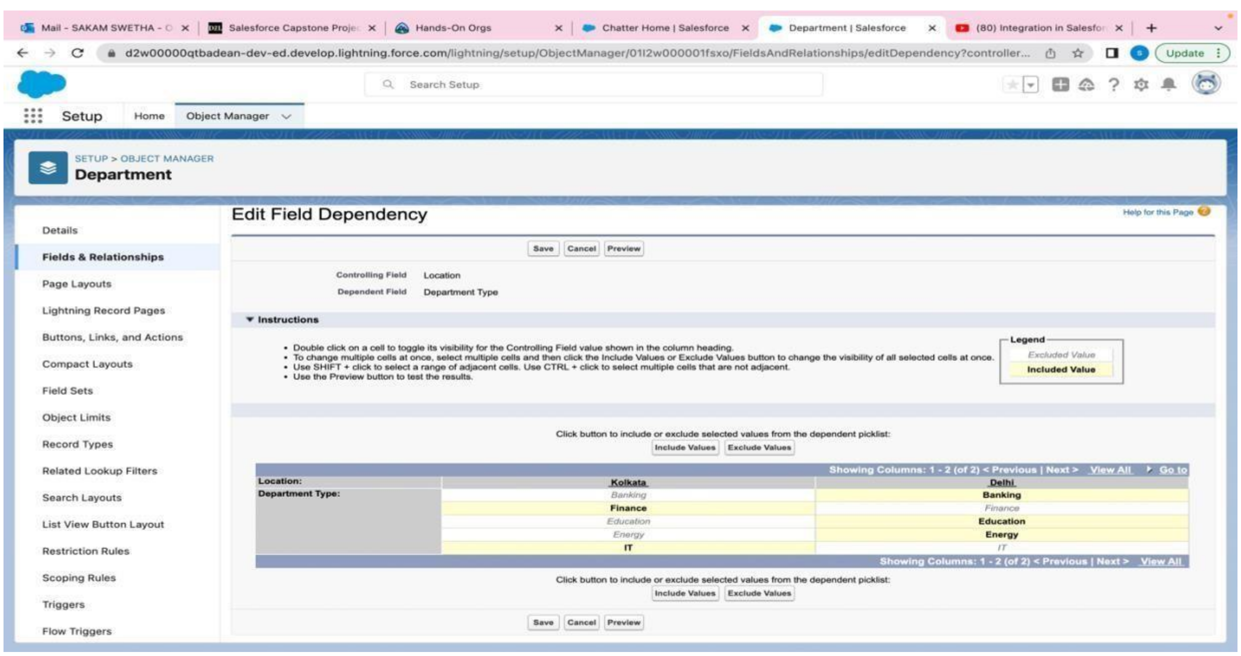


STEP 3:

Creating custom fields in Department object Department Code Filed

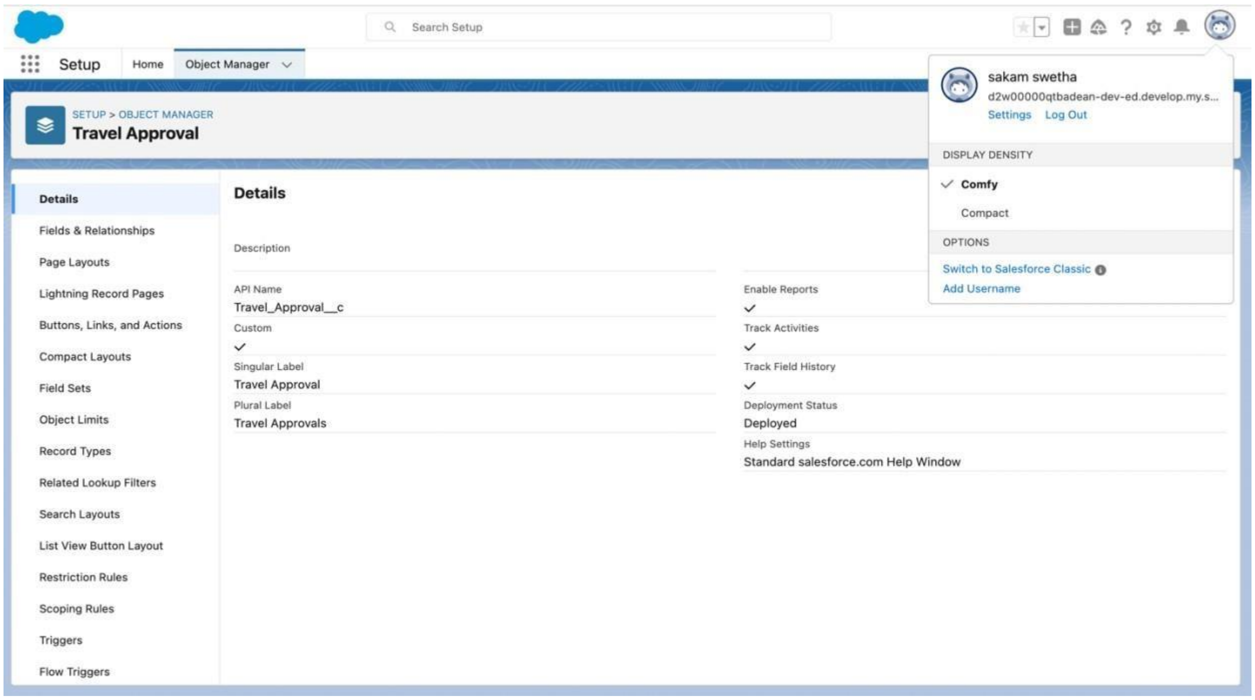


Field Dependency

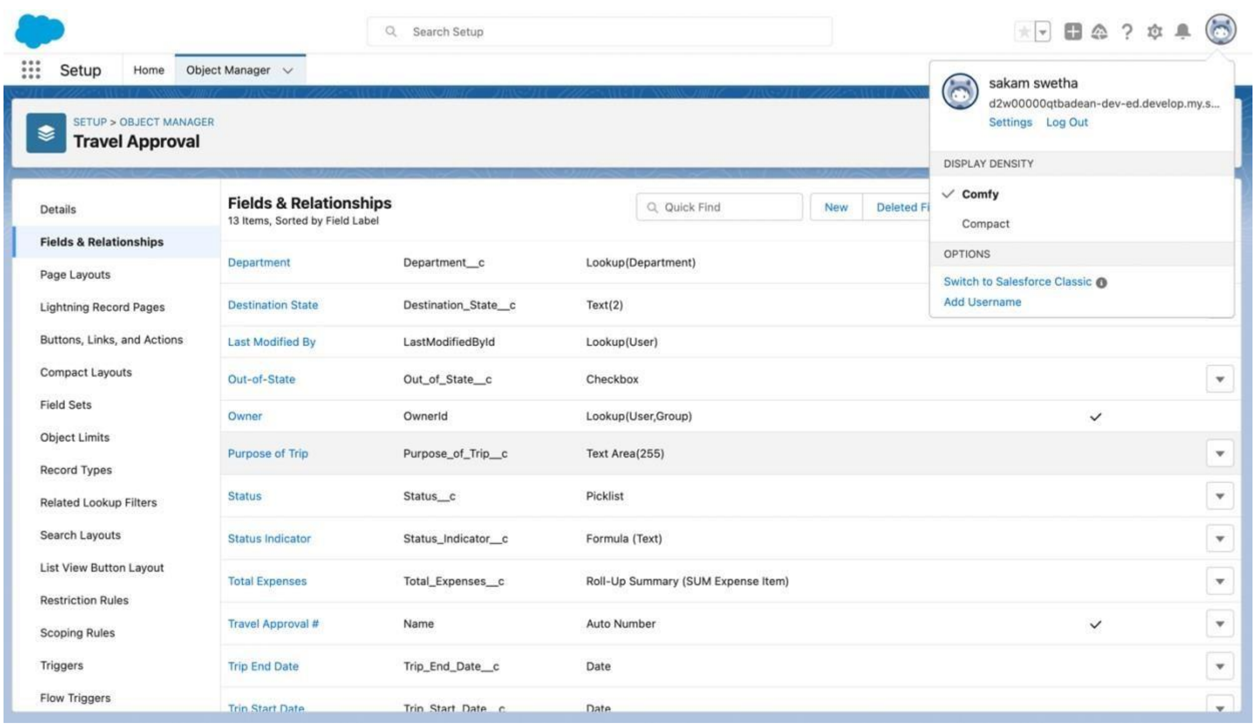


STEP 4:

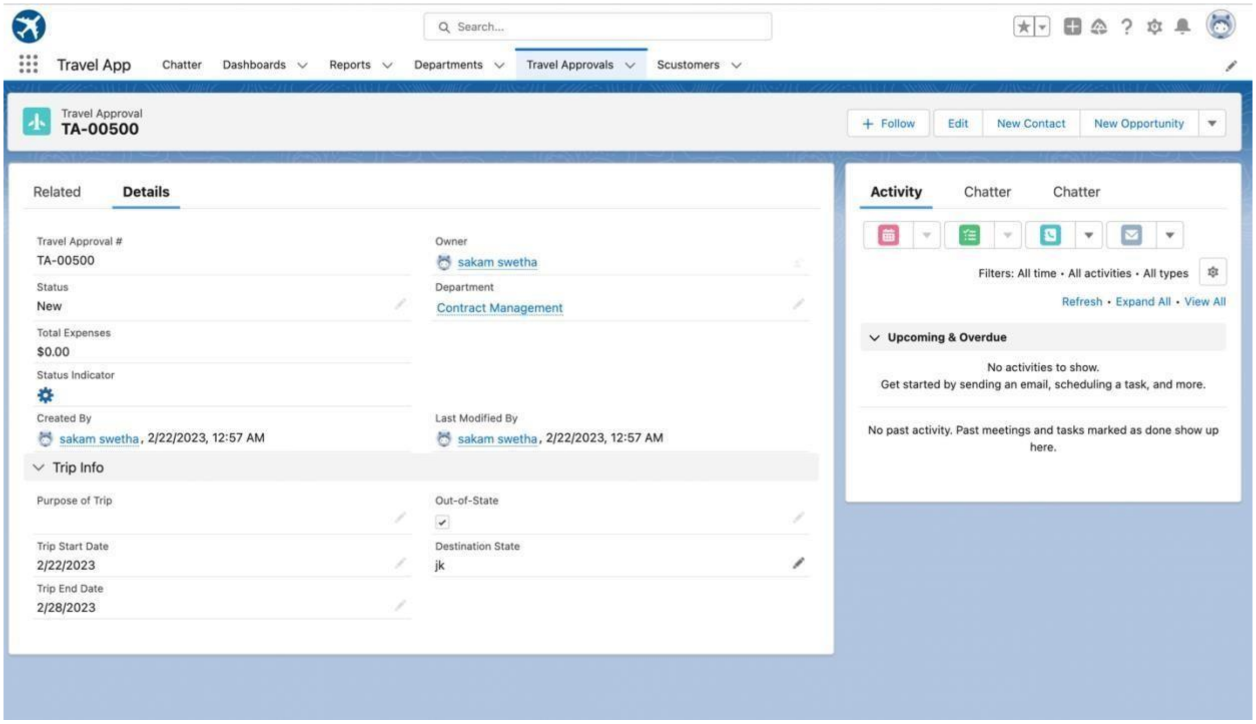
Custom Object : Travel Approval



Custom Fields in Travel Approval

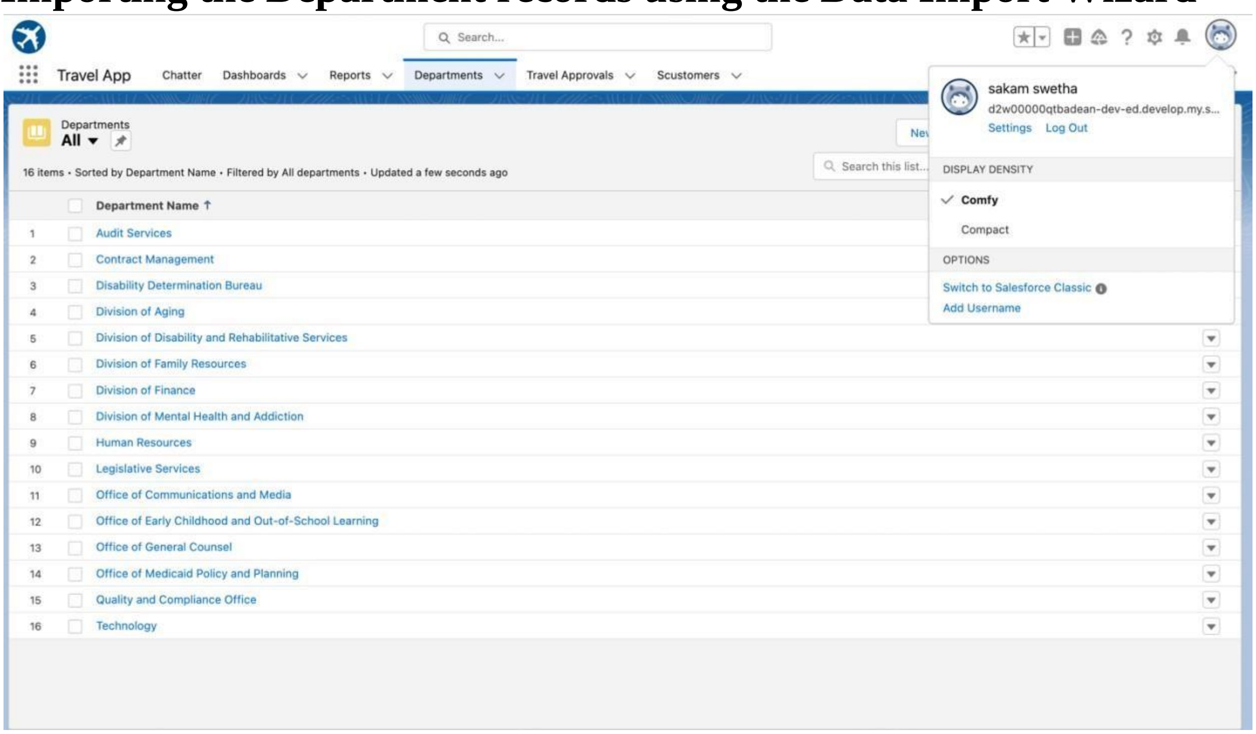


Testing the Travel App with the given Objects and Fields



STEP 5:

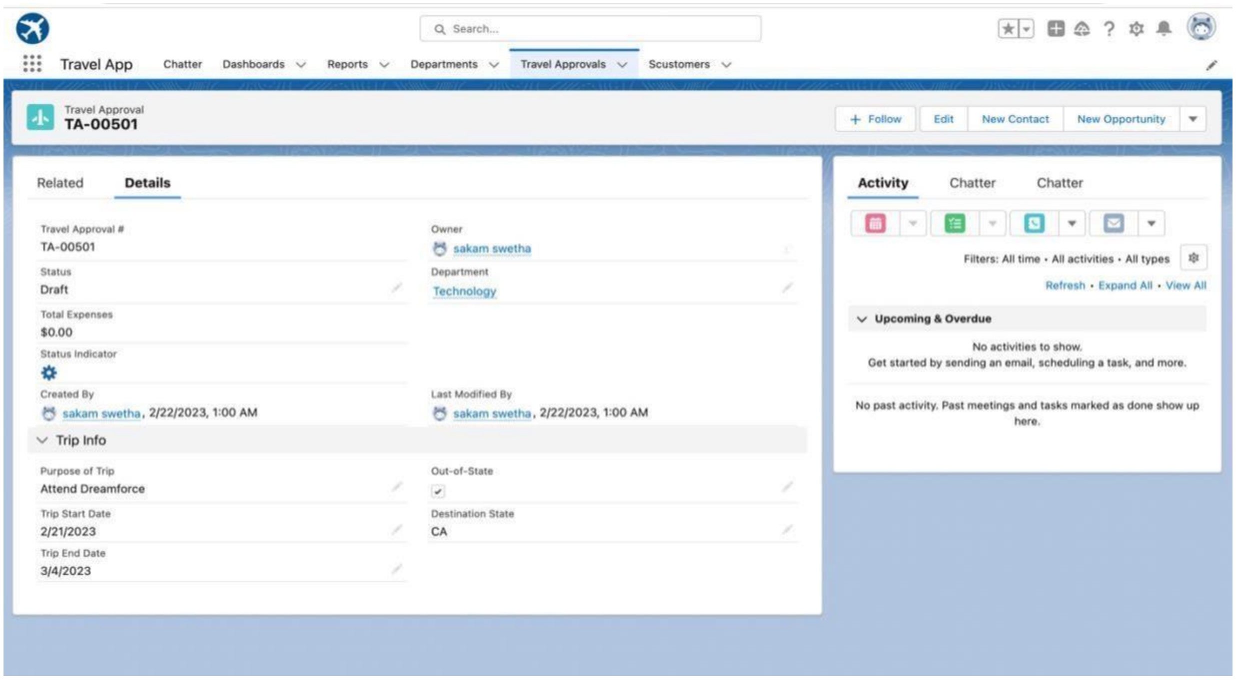
Importing the Department records using the Data Import Wizard



Exercise 2:-

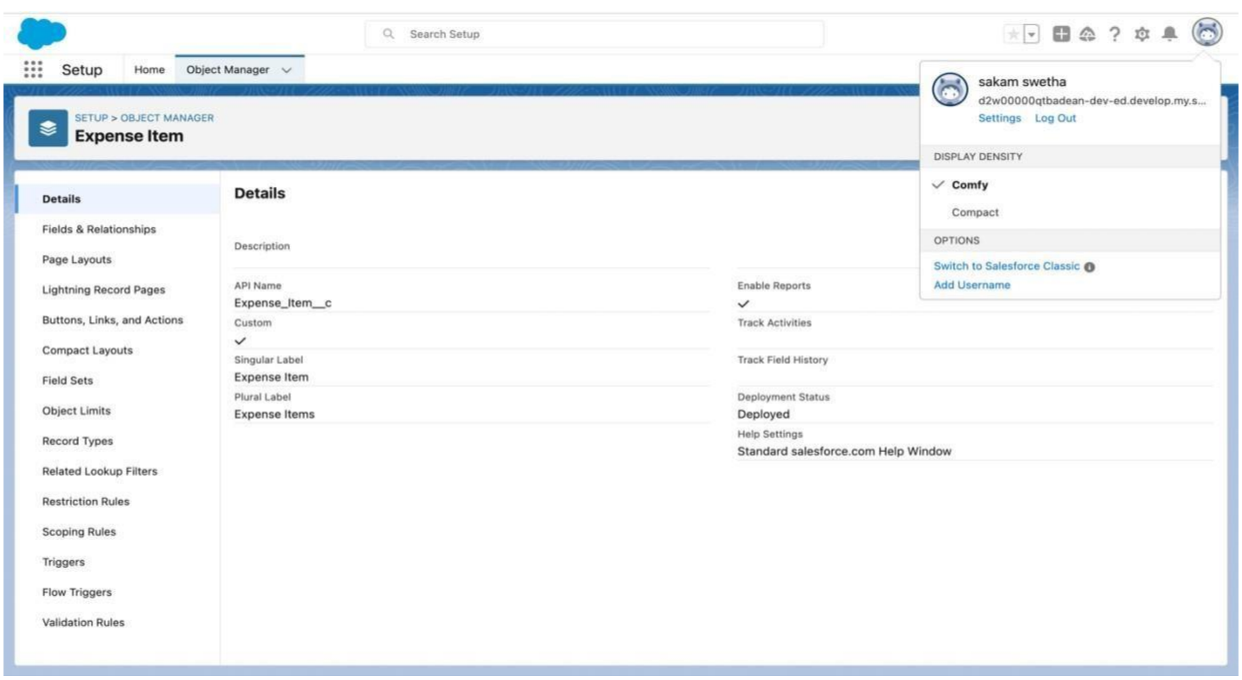
STEP 1:

Creating Travel Approval Record



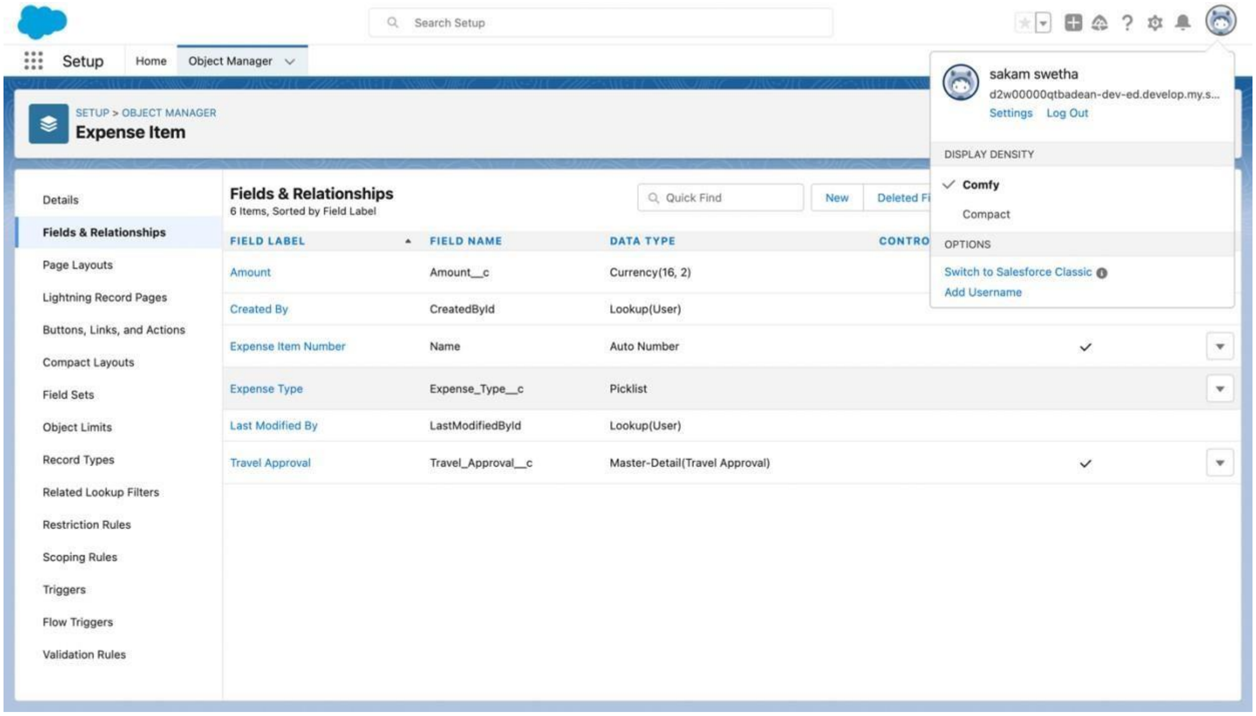
STEP 2:

Creating Expense Item Custom Object



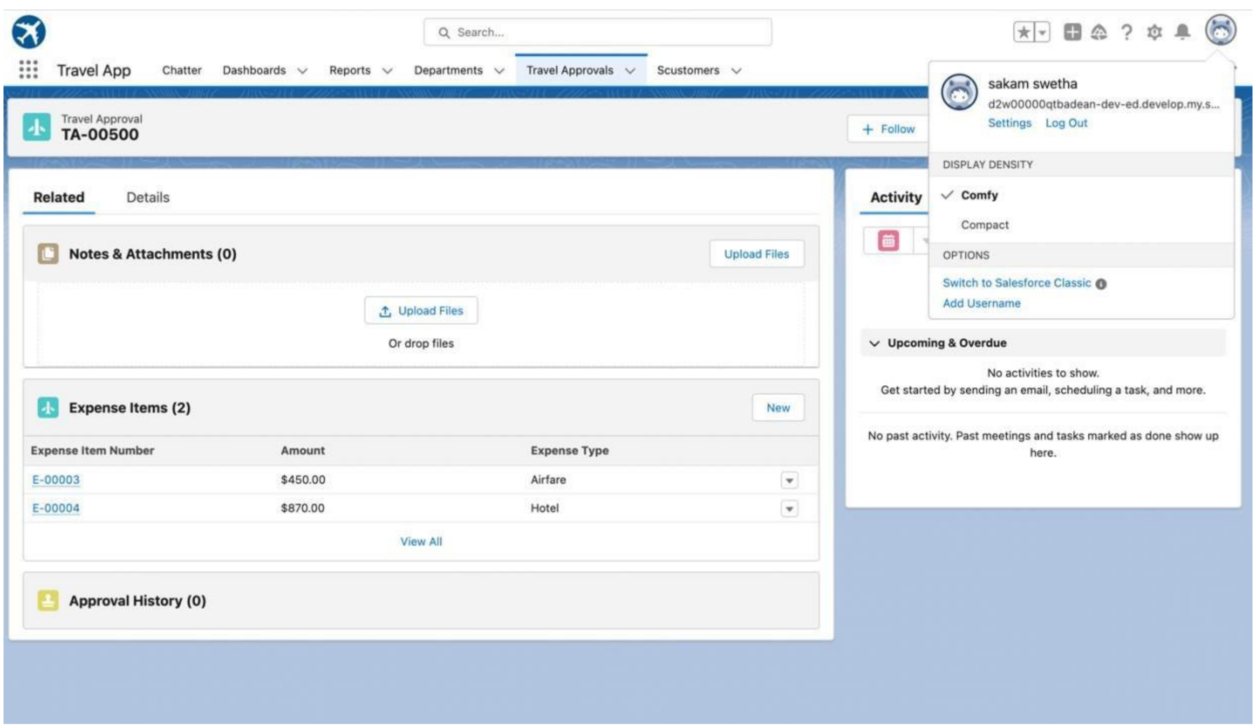
STEP 3:

Creating Custom Fields in Expense Item Object



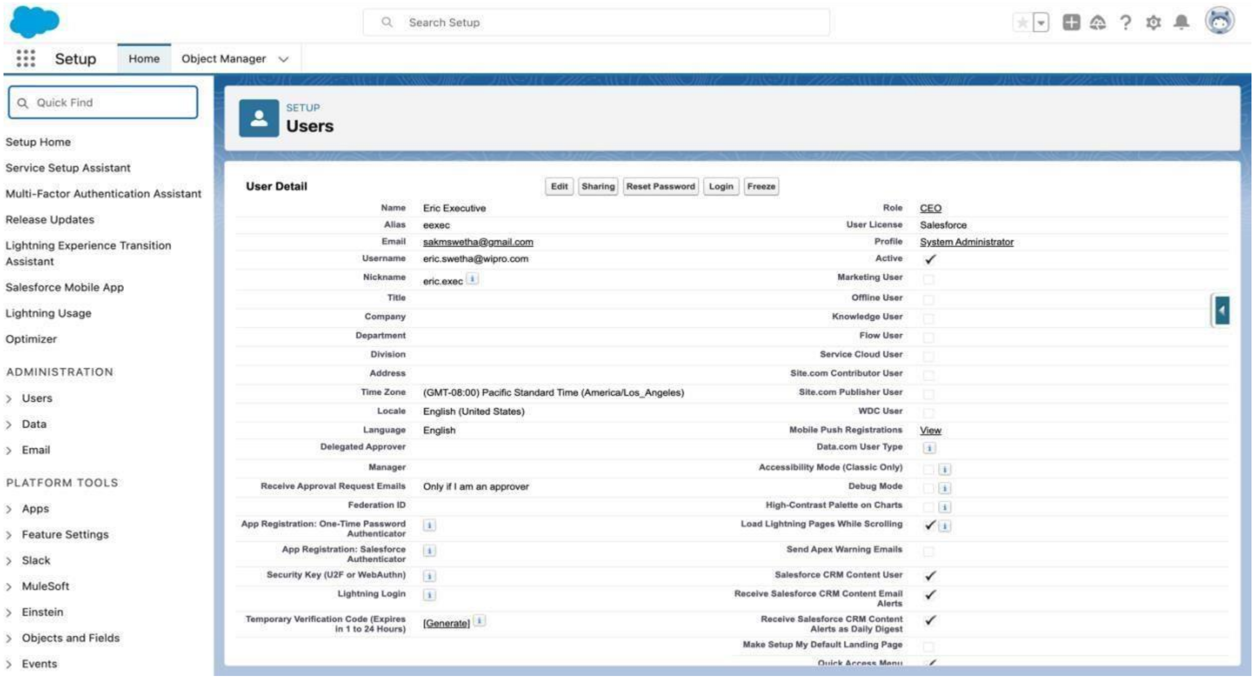
STEP 4:

Creating Records in Expense Item Object



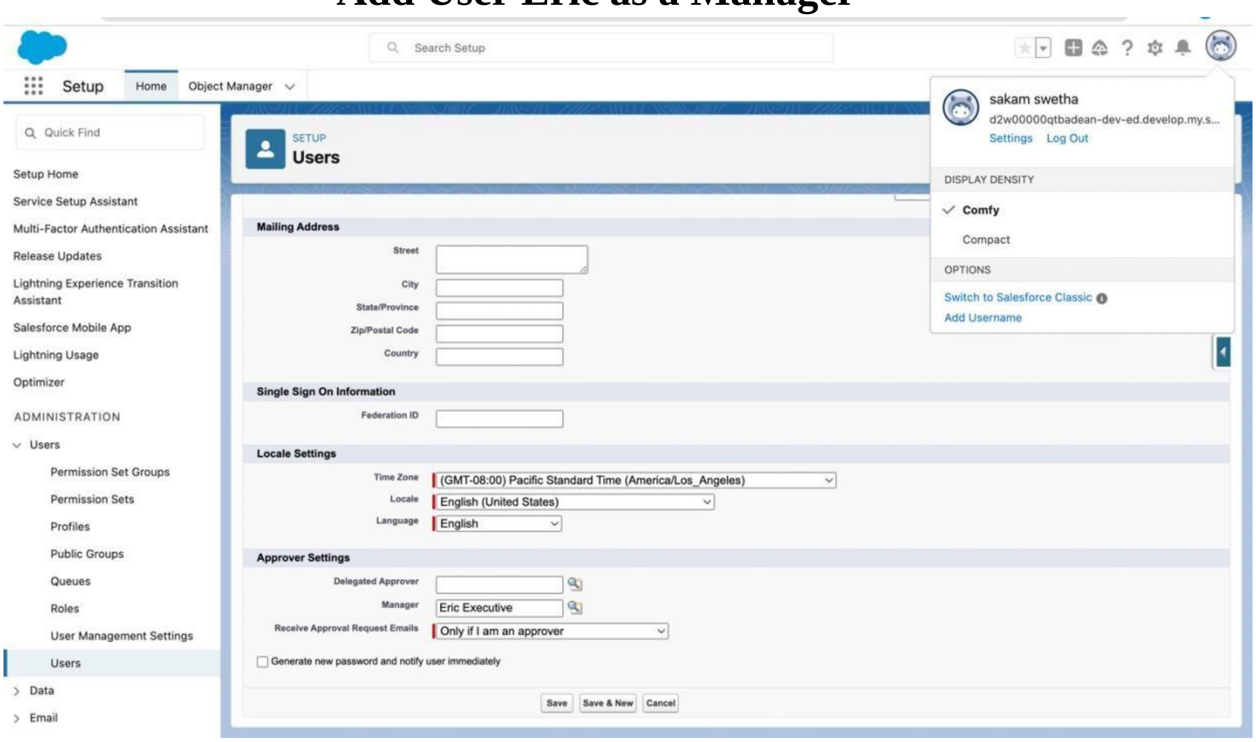
STEP 5:

Creating User names Eric Executive



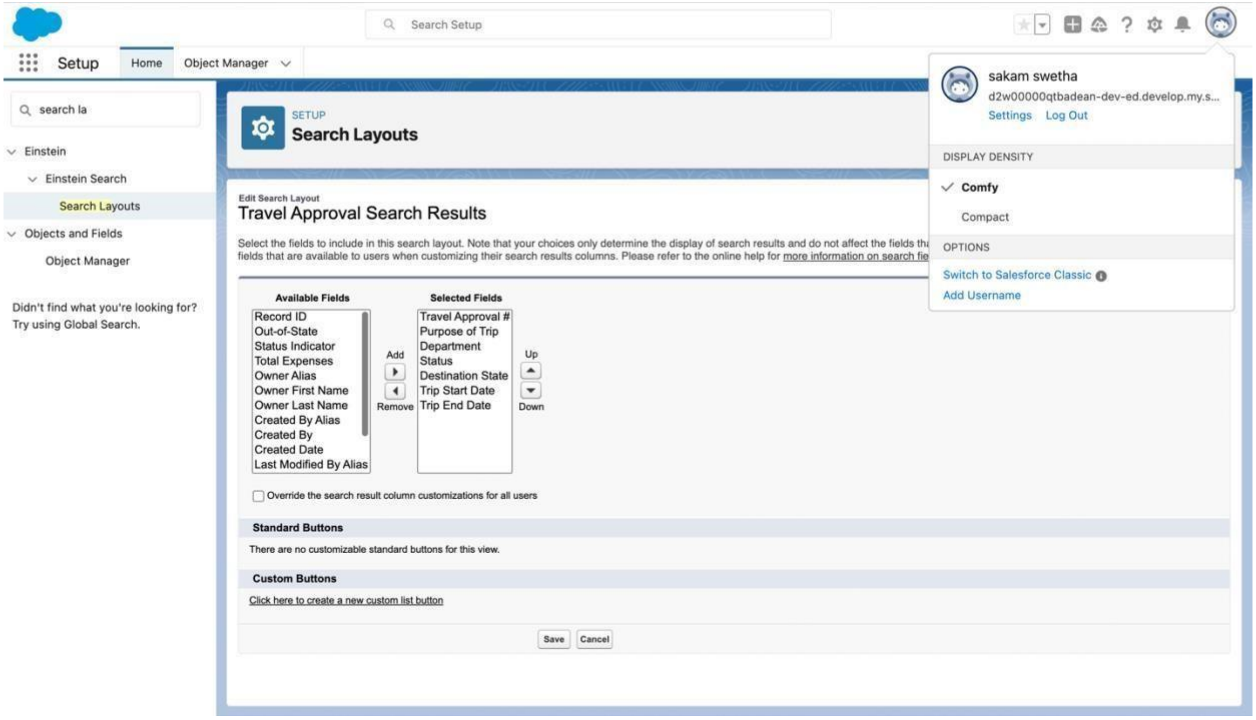
STEP 6:

Add User Eric as a Manager



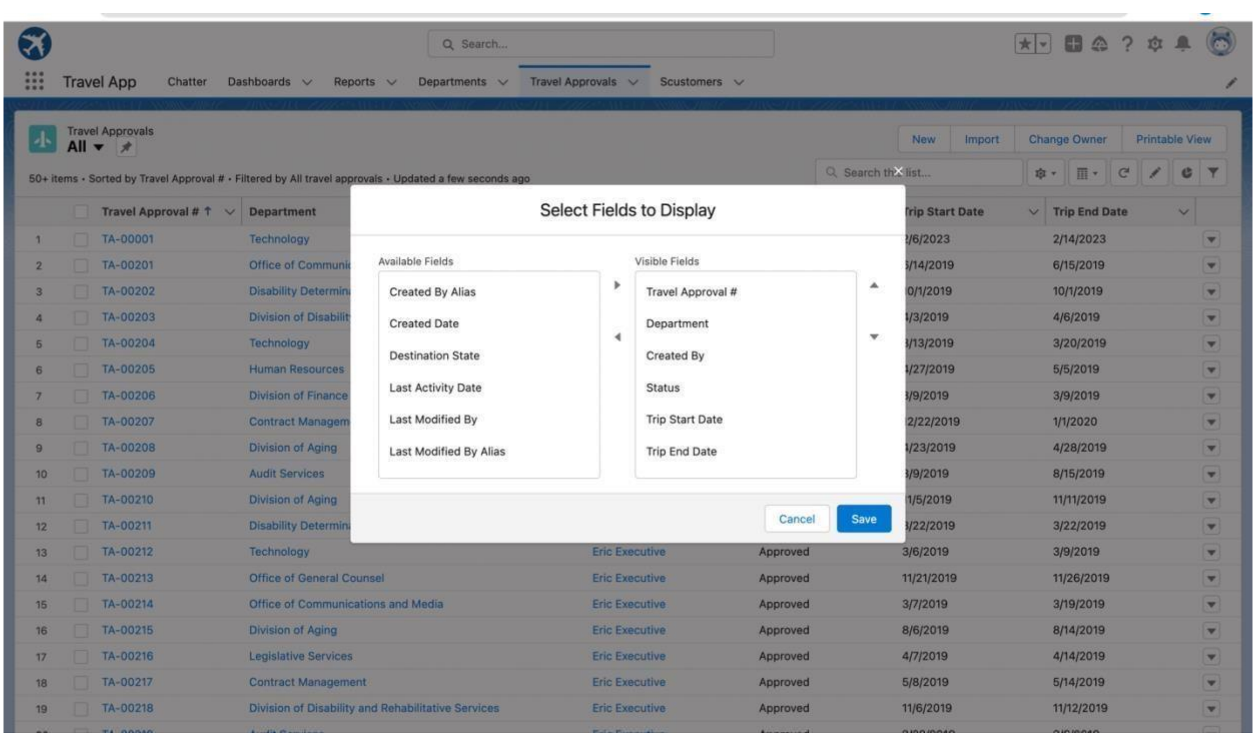
STEP 7:

Customize the Travel Approval Default Search Layout



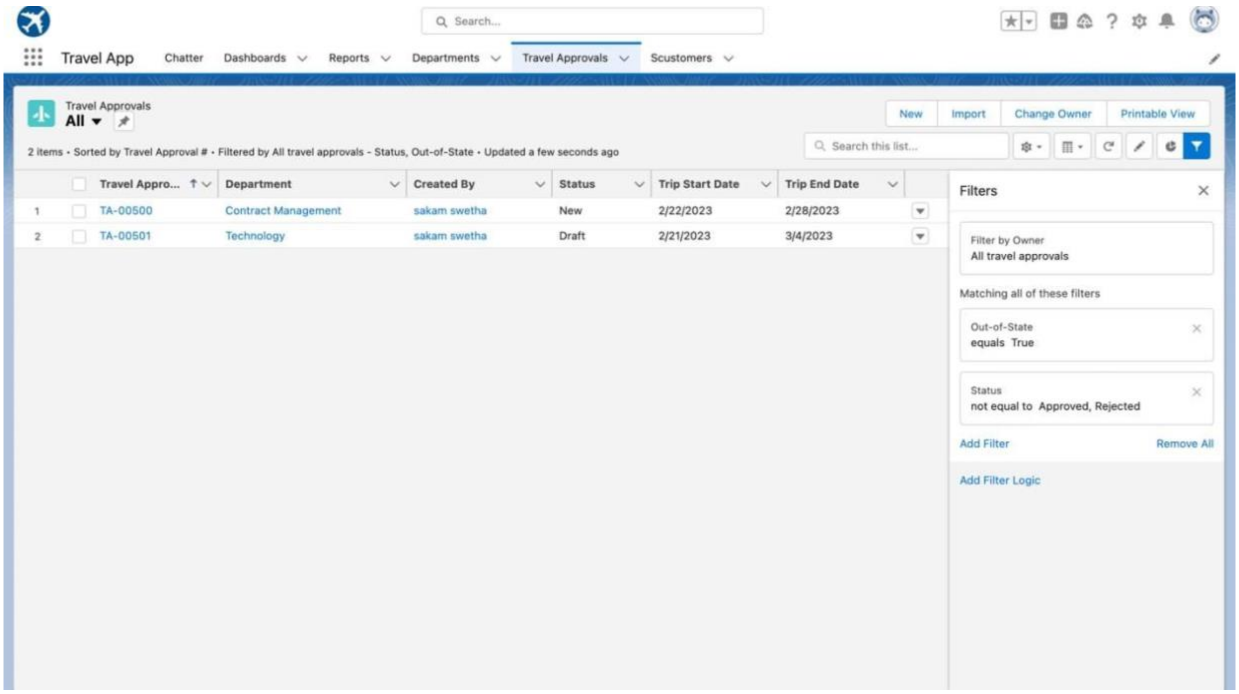
STEP 8:

Select Fields ton display in the Travel Approval “All” List View



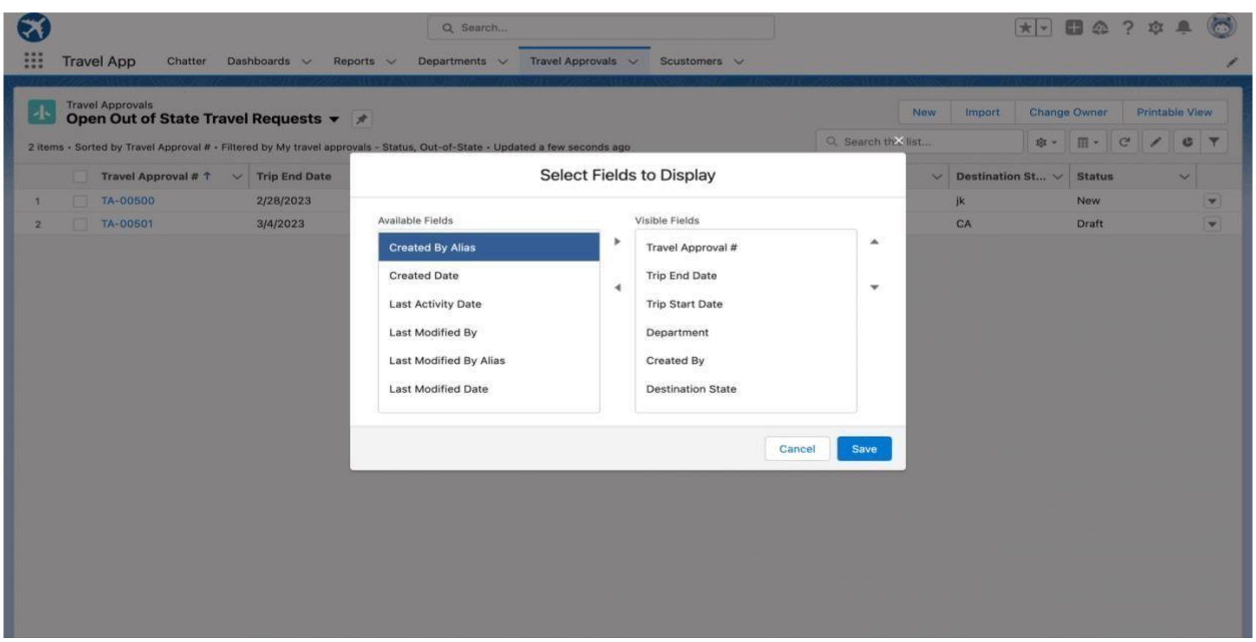
STEP 9:

Create Travel approval custom List View “Open Out of State Travel Requests”



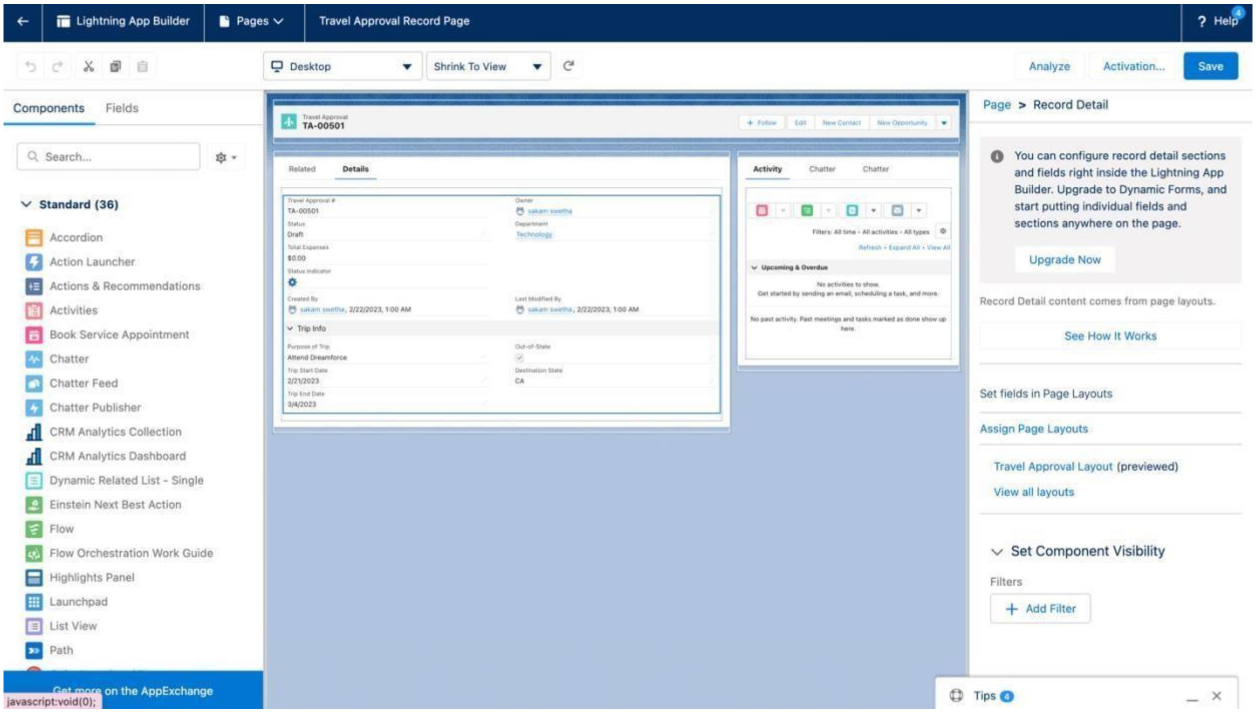
STEP 10:

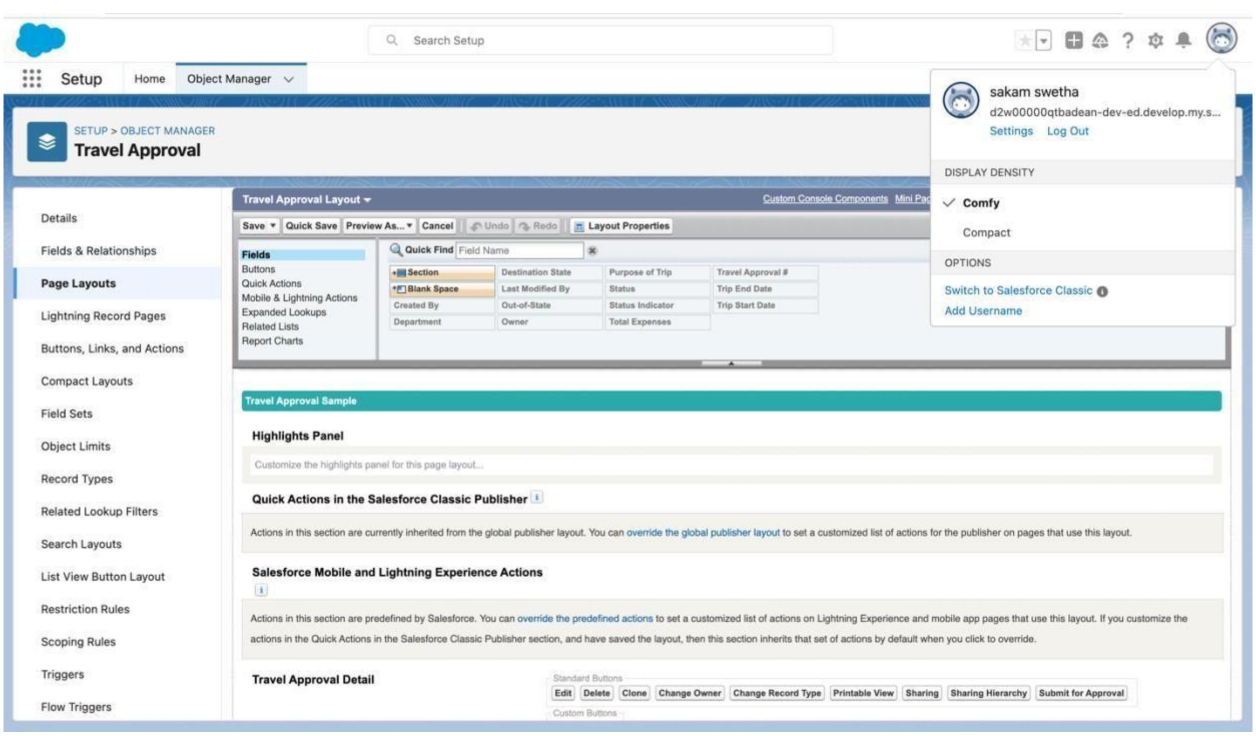
Select fields to display in the Travel Approval “Open Out of State Travel Requests”



STEP 11:

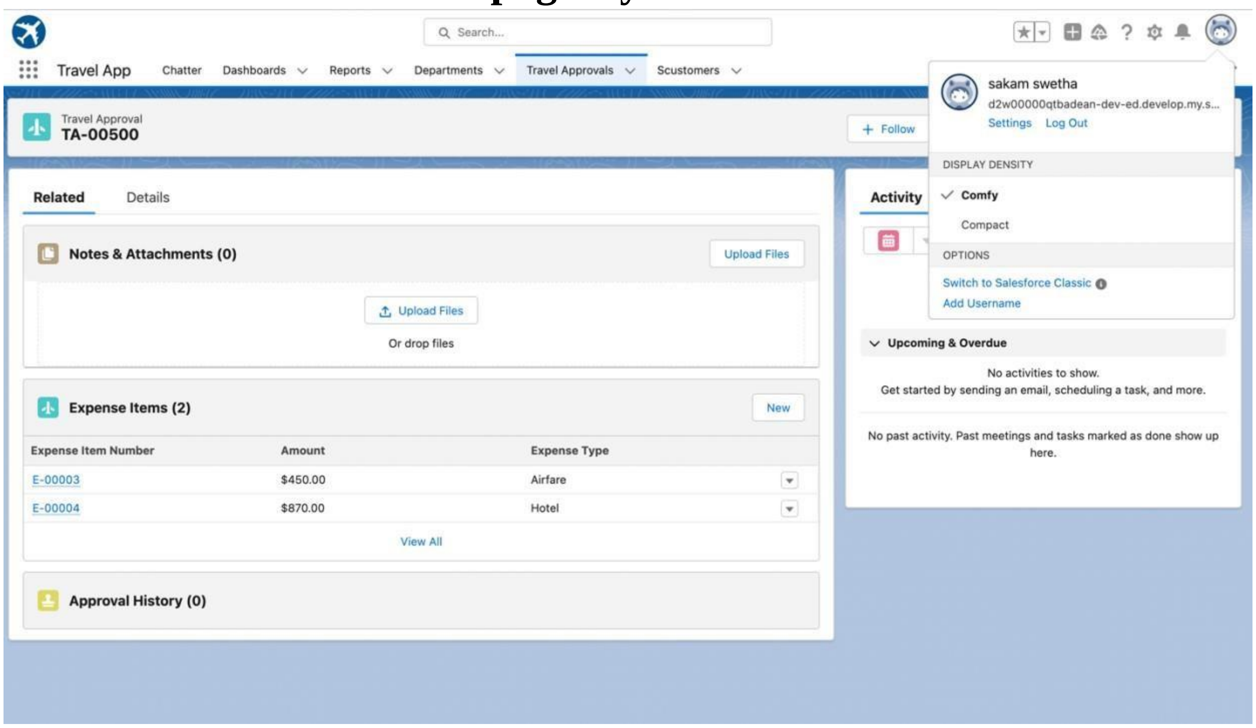
Customizing Page Layout





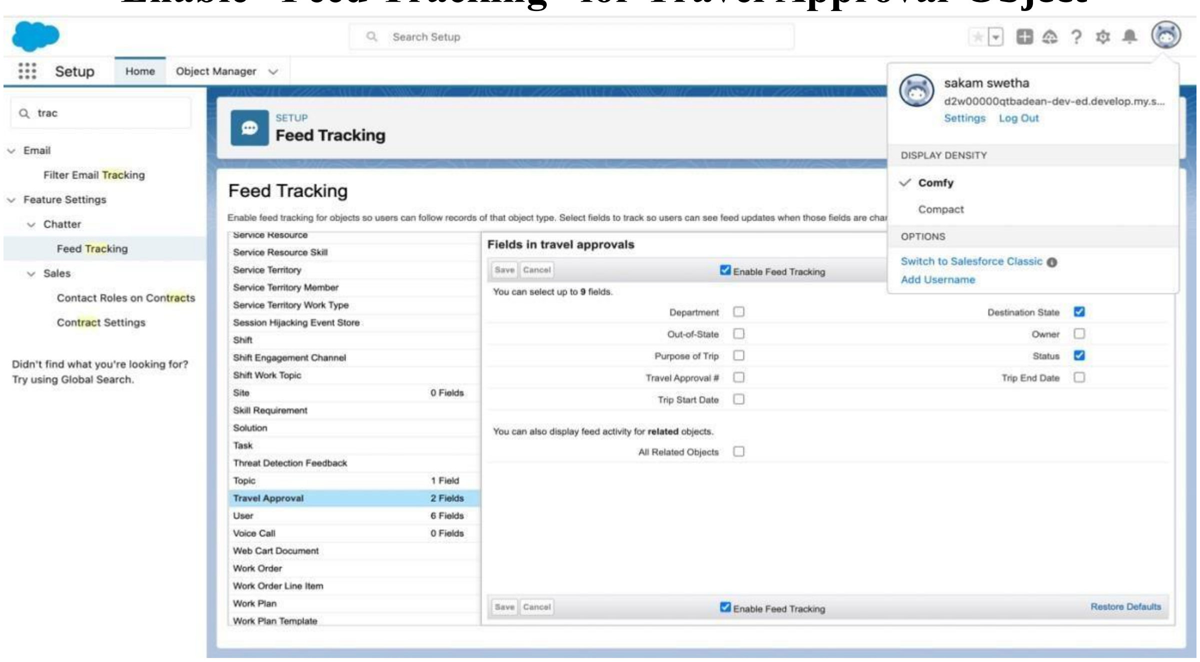
STEP 12:

Customize the Expense Item Related List under the Travel Approval page layout

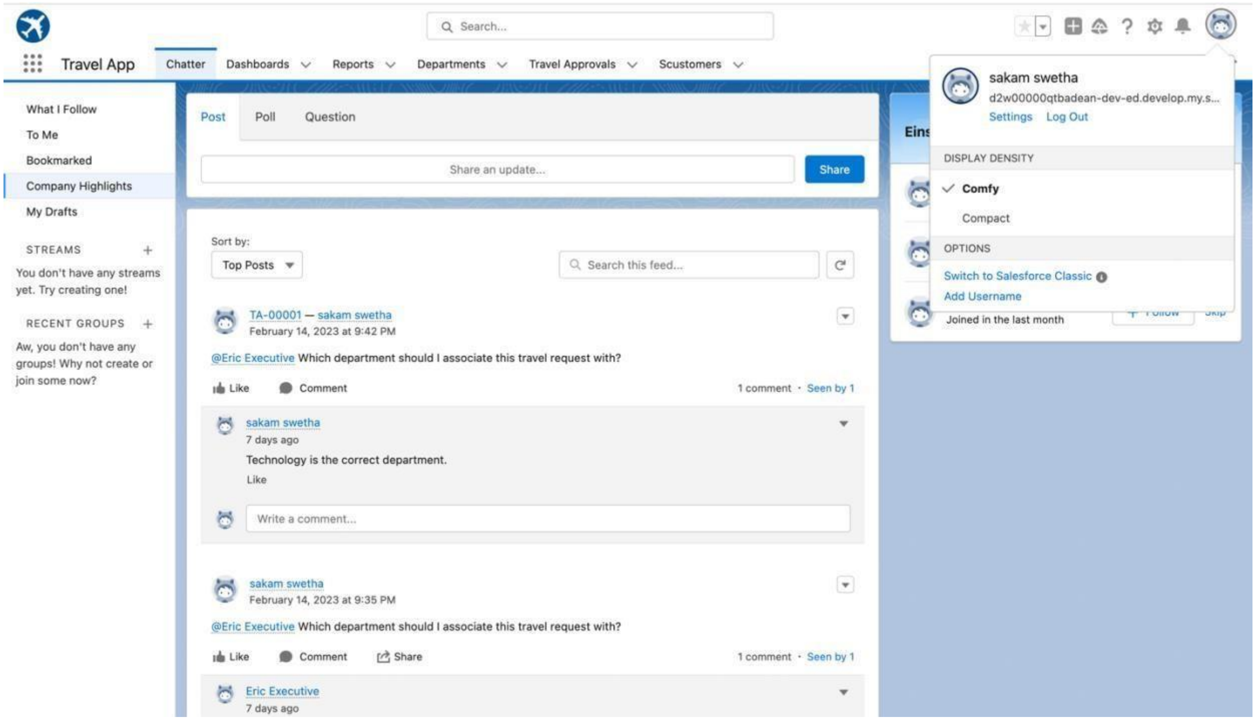


STEP 13:

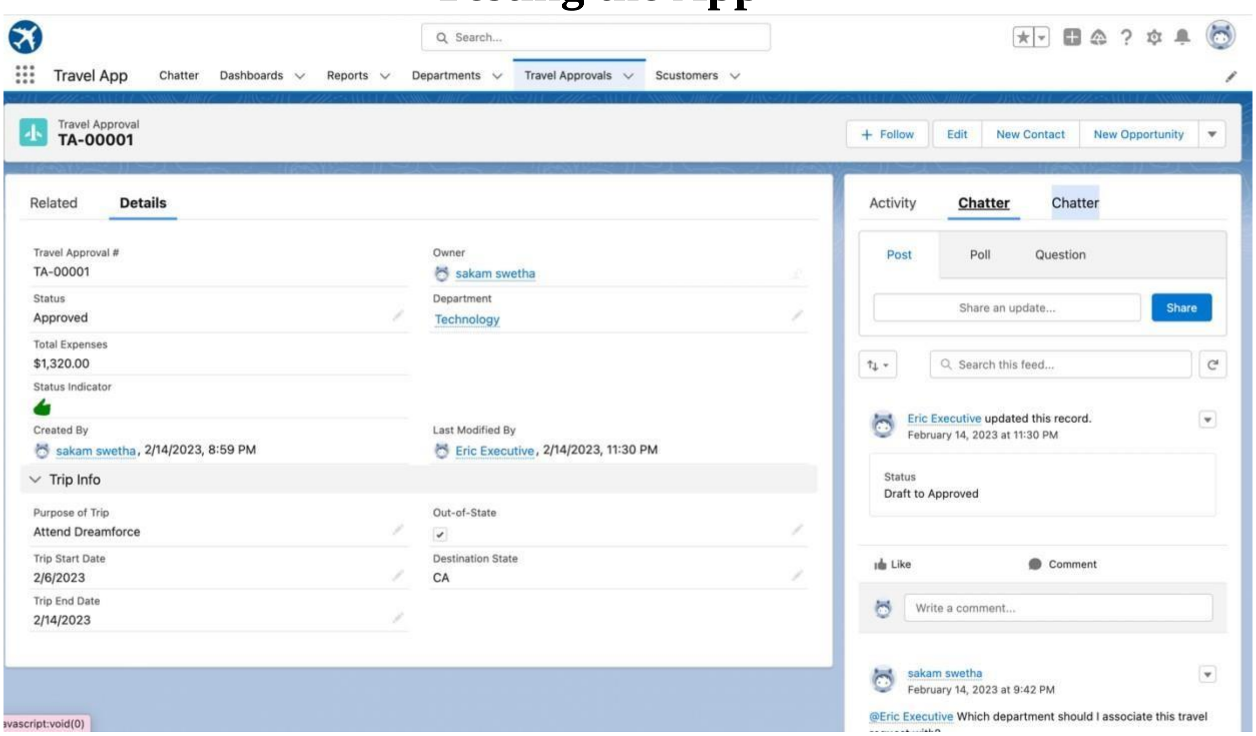
Enable “Feed Tracking” for Travel Approval Object



Test Collaboration



Testing the App

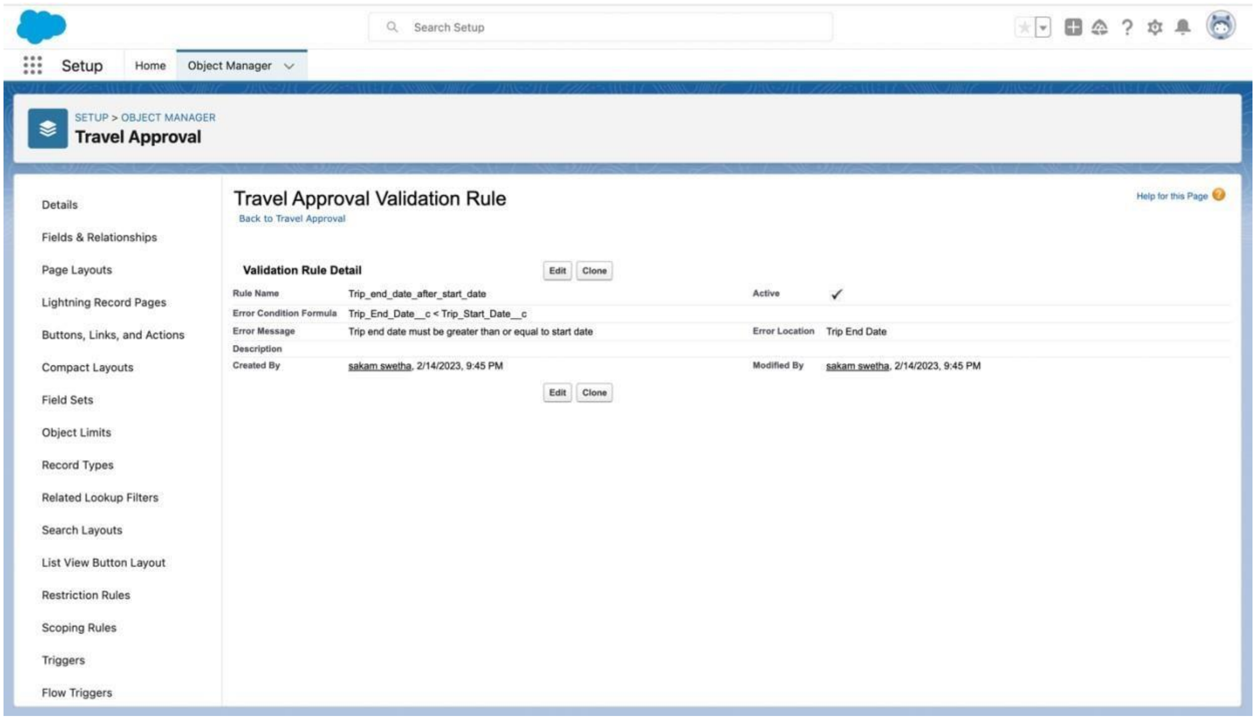


MODULE 2

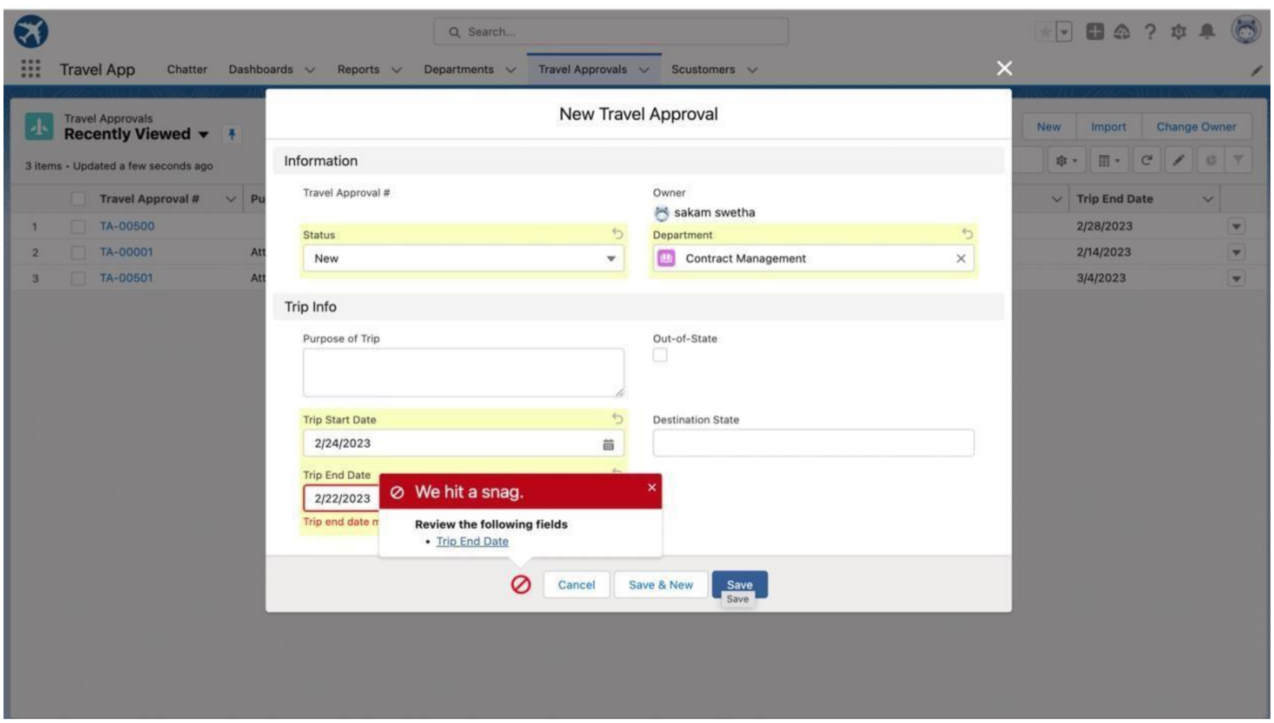
Exercise 1 :-

STEP 1:

Validation Rule that trip end date always >= start date

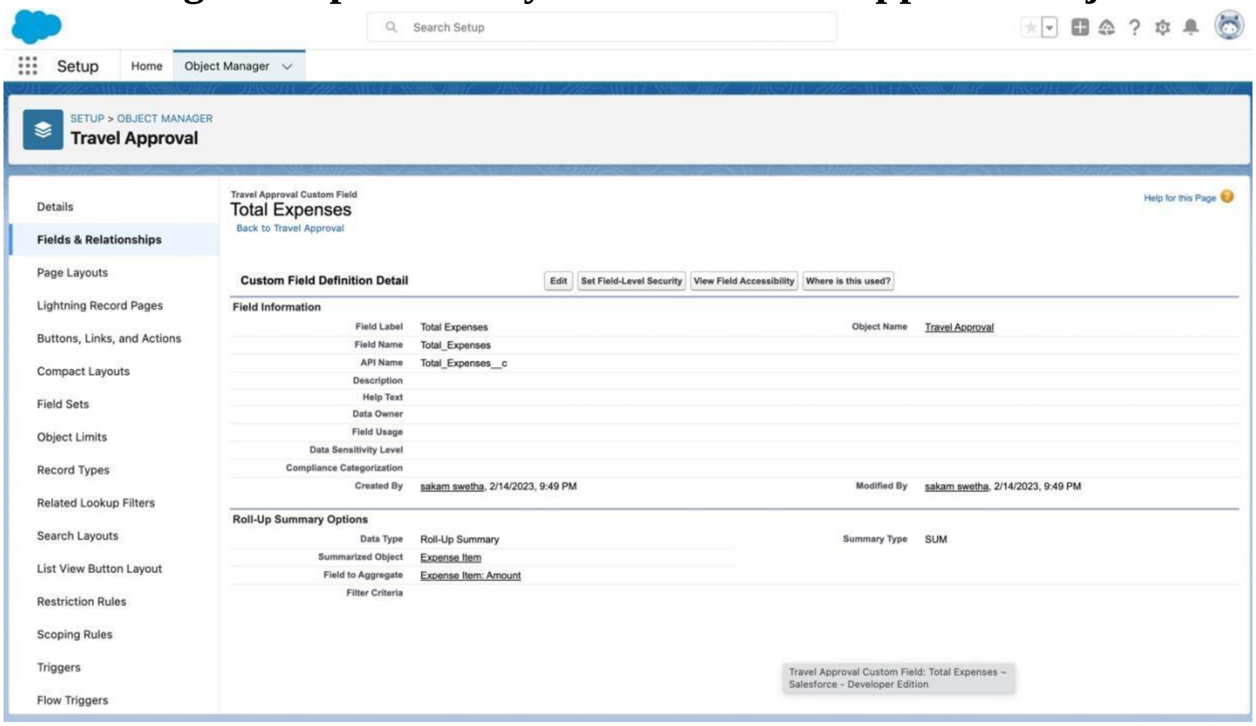


Working on Validation Rule with error message



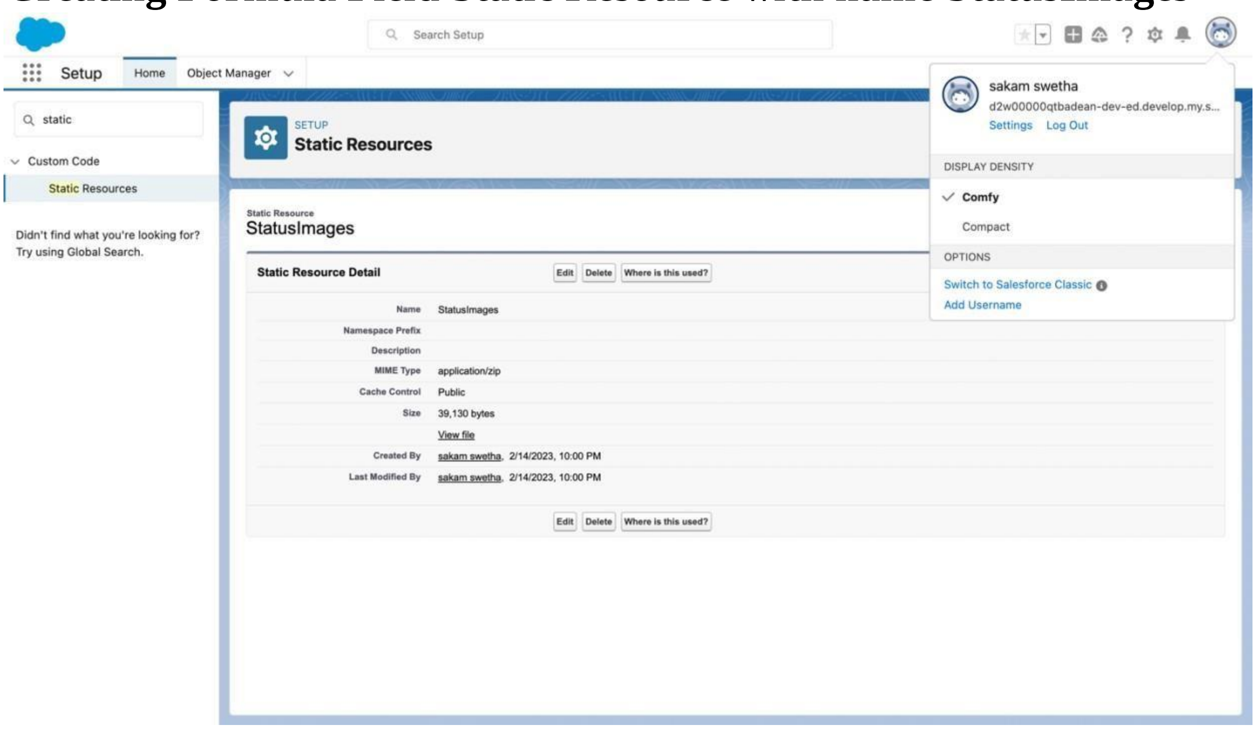
STEP 2:

Creating Roll-up Summary Field on Travel Approval Object



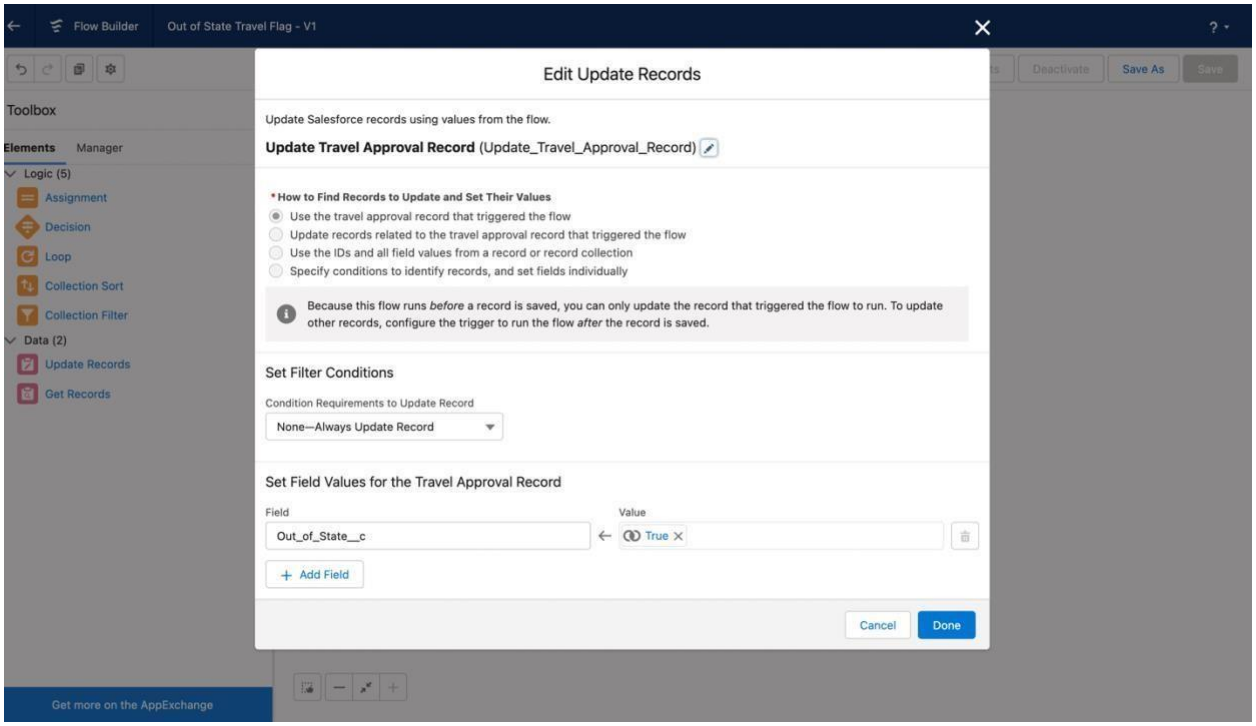
STEP 3:

Creating Formula Field Static Resource with name StatusImages



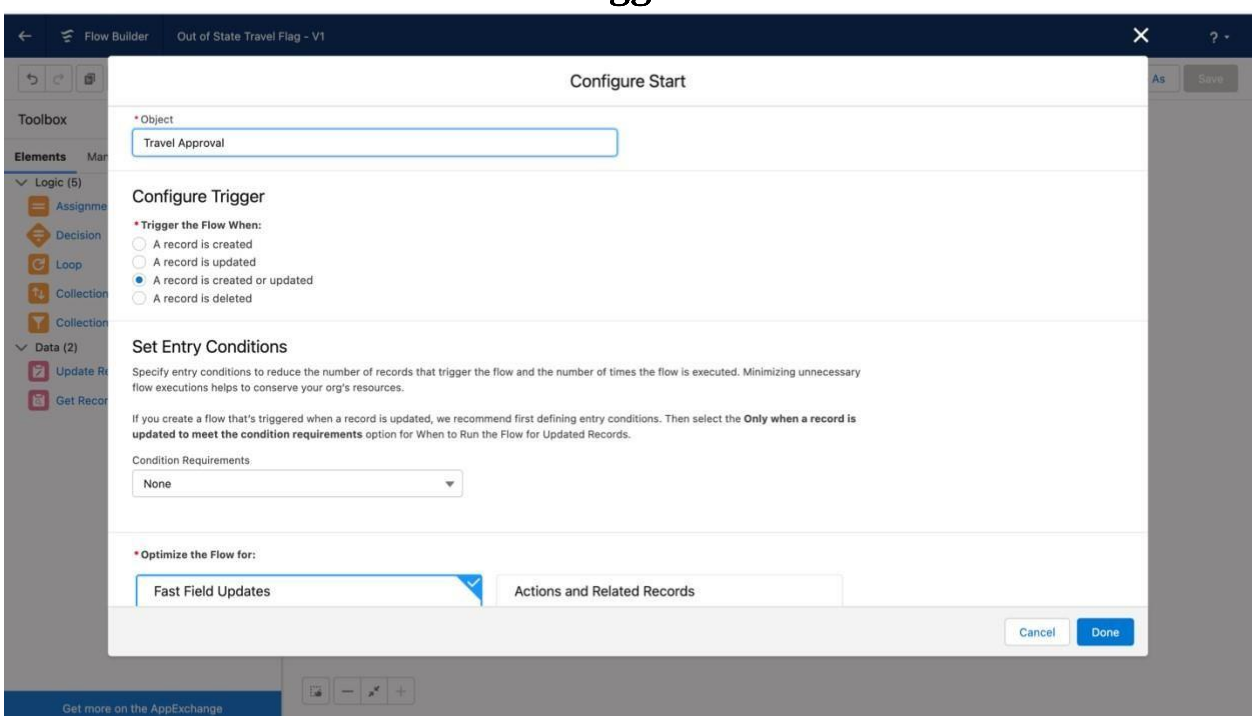
STEP 4:

Create Status Formula Field on Travel Approval

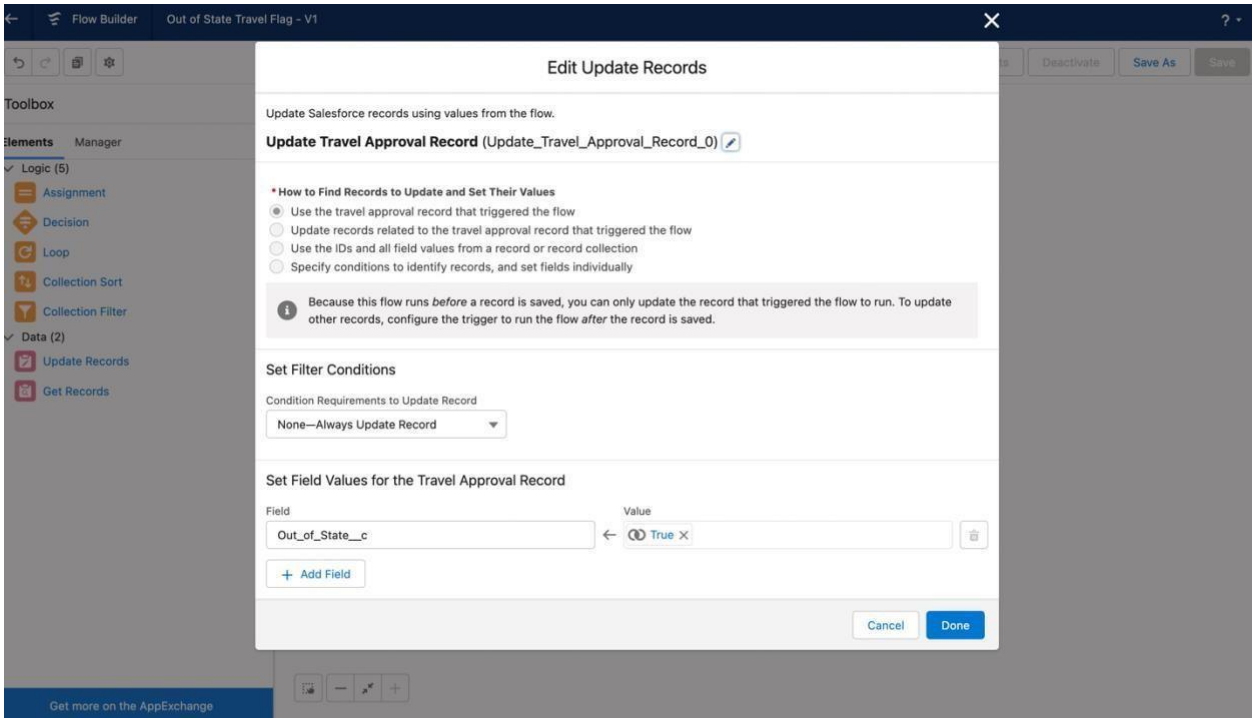


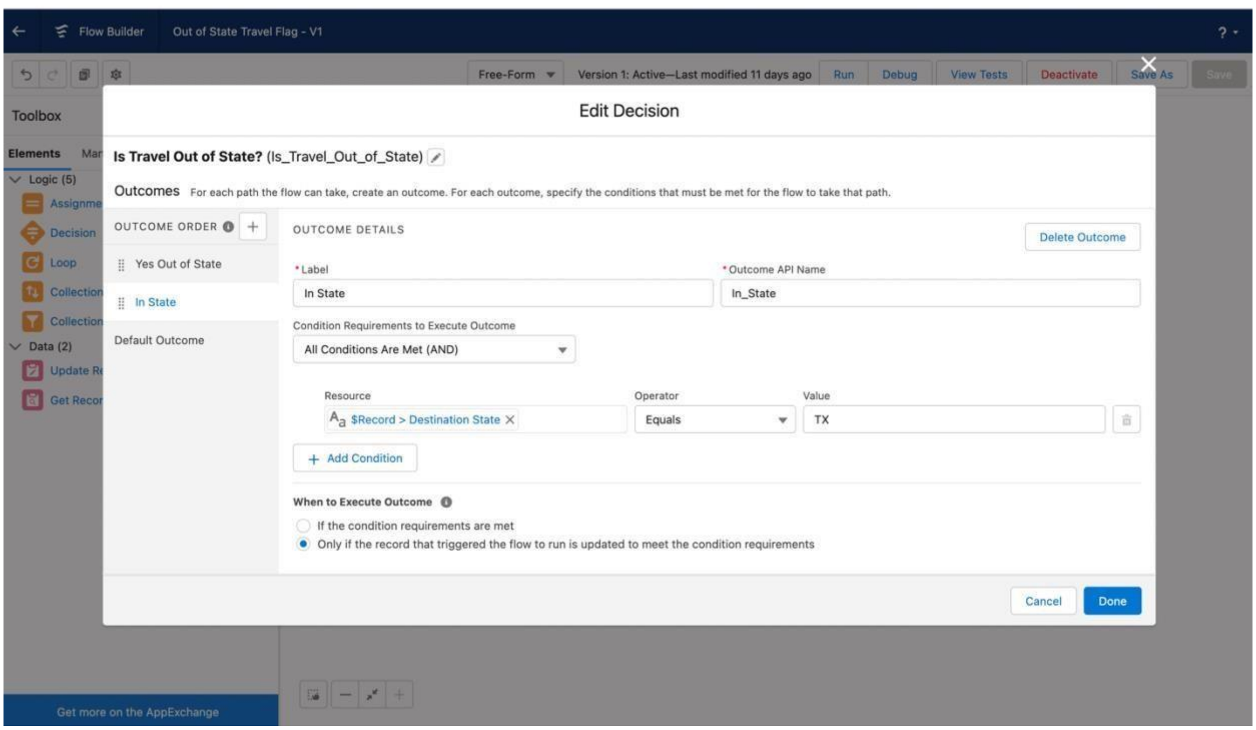
STEP 5:

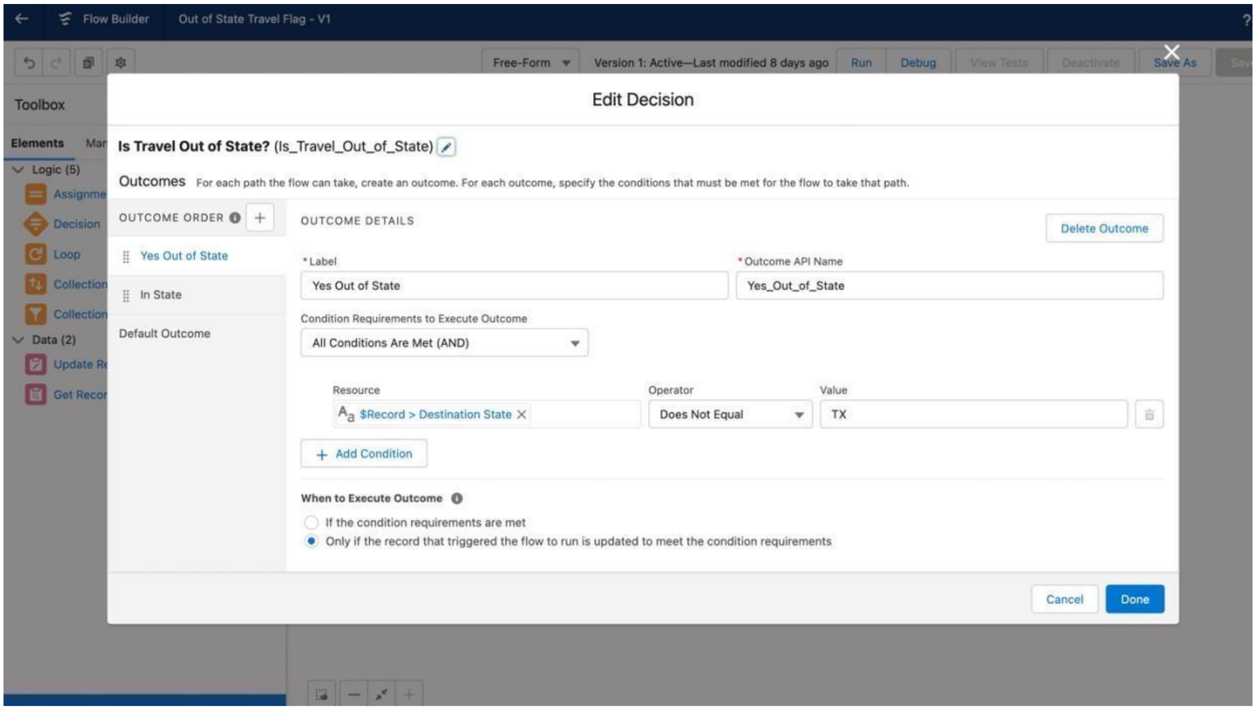
Record Trigger Flow

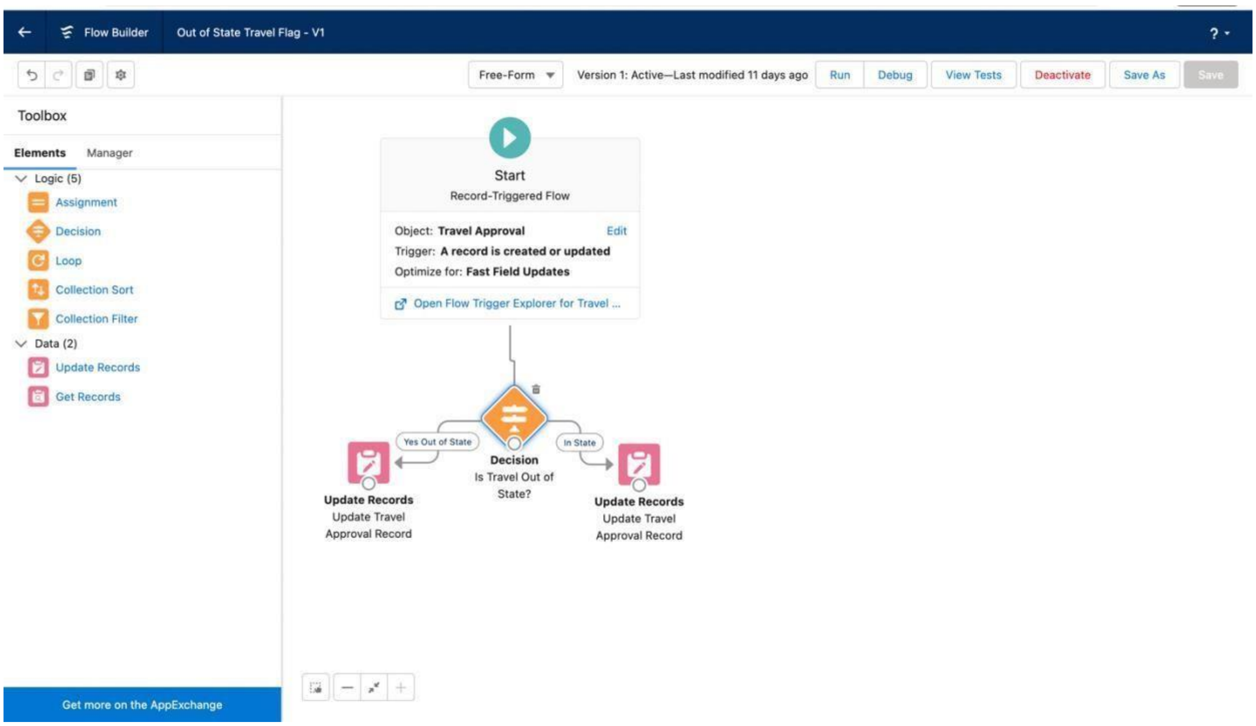


Creating Decisions



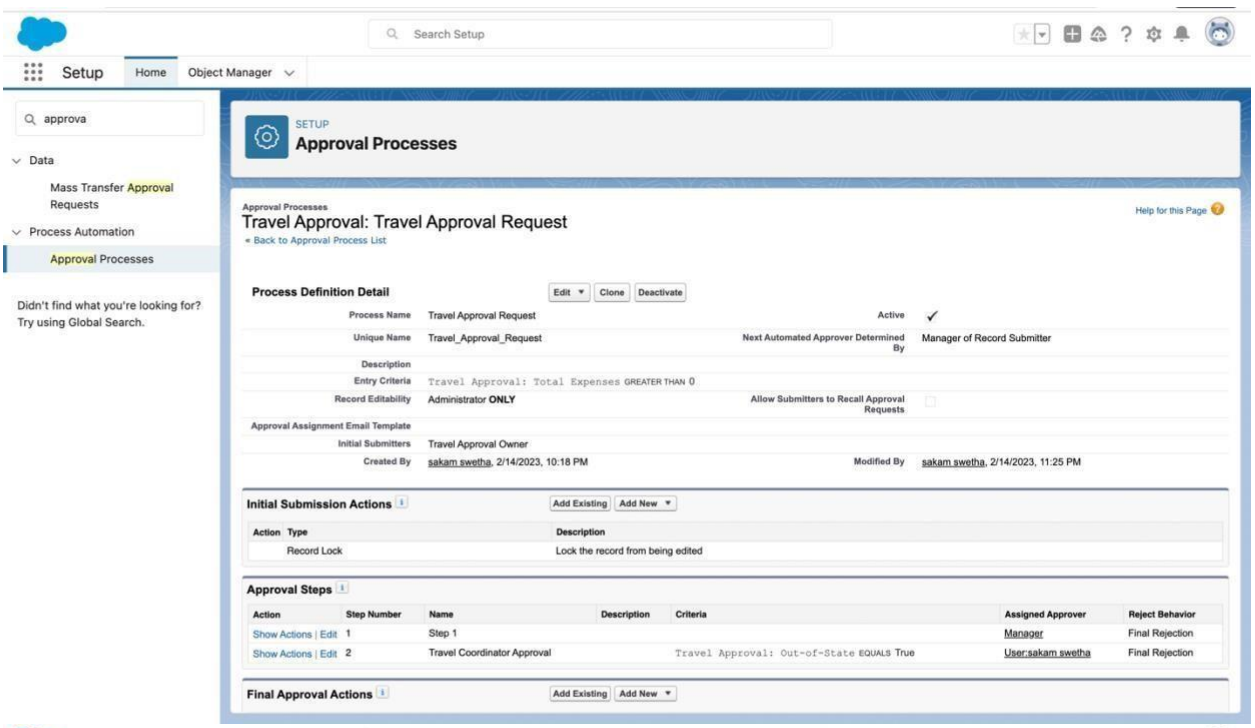


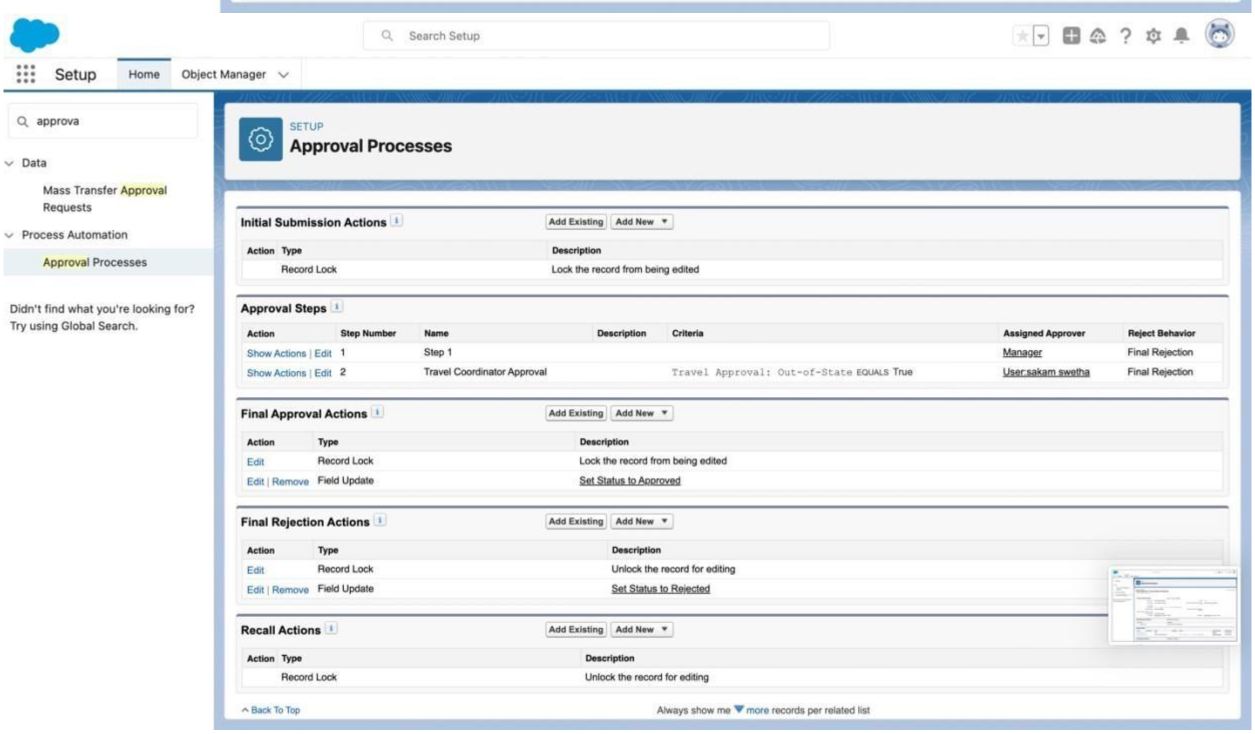

Flow Builder
Out of State Travel Flag - V1
Free-Form
Version 1: Active—Last modified 8 days ago
Run
Debug
View Tests
Deactivate
Save As
Toolbox
Elements
Logic (5)
Decision
Loop
Data (2)
Edit Decision
Is Travel Out of State? (Is_Travel_Out_of_State)
Outcomes For each path the flow can take, create an outcome. For each outcome, specify the conditions that must be met for the flow to take that path.
OUTCOME ORDER
Yes Out of State
In State
Default Outcome
OUTCOME DETAILS
Delete Outcome
*Label
Yes Out of State
*Outcome API Name
Yes_Out_of_State
Condition Requirements to Execute Outcome
All Conditions Are Met (AND)
Resource
$Record > Destination State
Operator
Does Not Equal
Value
TX
Add Condition
When to Execute Outcome
If the condition requirements are met
Only if the record that triggered the flow to run is updated to meet the condition requirements
Cancel
Done

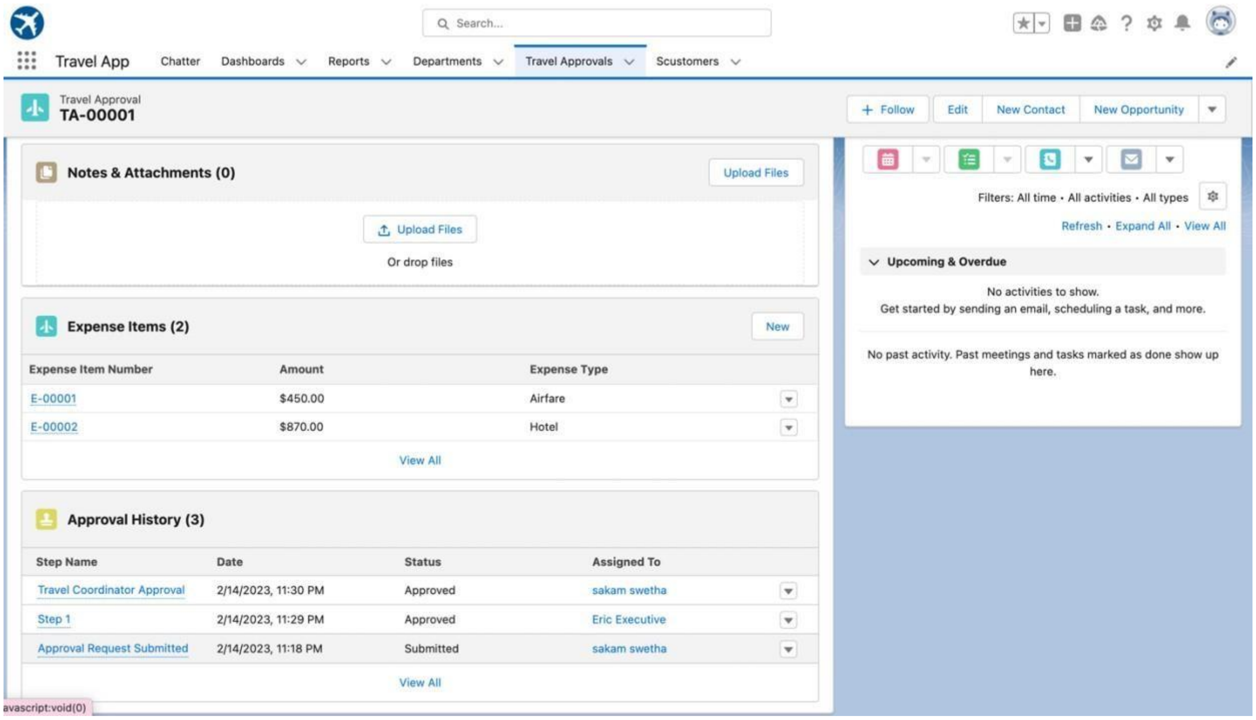

Flow Builder
Out of State Travel Flag - V1
Free-Form
Version 1: Active—Last modified 11 days ago
Run
Debug
View Tests
Deactivate
Save As
Save
Toolbox
Elements
Manager
Logic (5)
Assignment
Decision
Loop
Collection Sort
Collection Filter
Data (2)
Update Records
Get Records
Start
Record-Triggered Flow
Object: Travel Approval
Edit
Trigger: A record is created or updated
Optimize for: Fast Field Updates
Open Flow Trigger Explorer for Travel ...
Yes Out of State
In State
Decision
Is Travel Out of State?
Update Records
Update Travel Approval Record
Update Records
Update Travel Approval Record
Get more on the AppExchange

STEP 6:

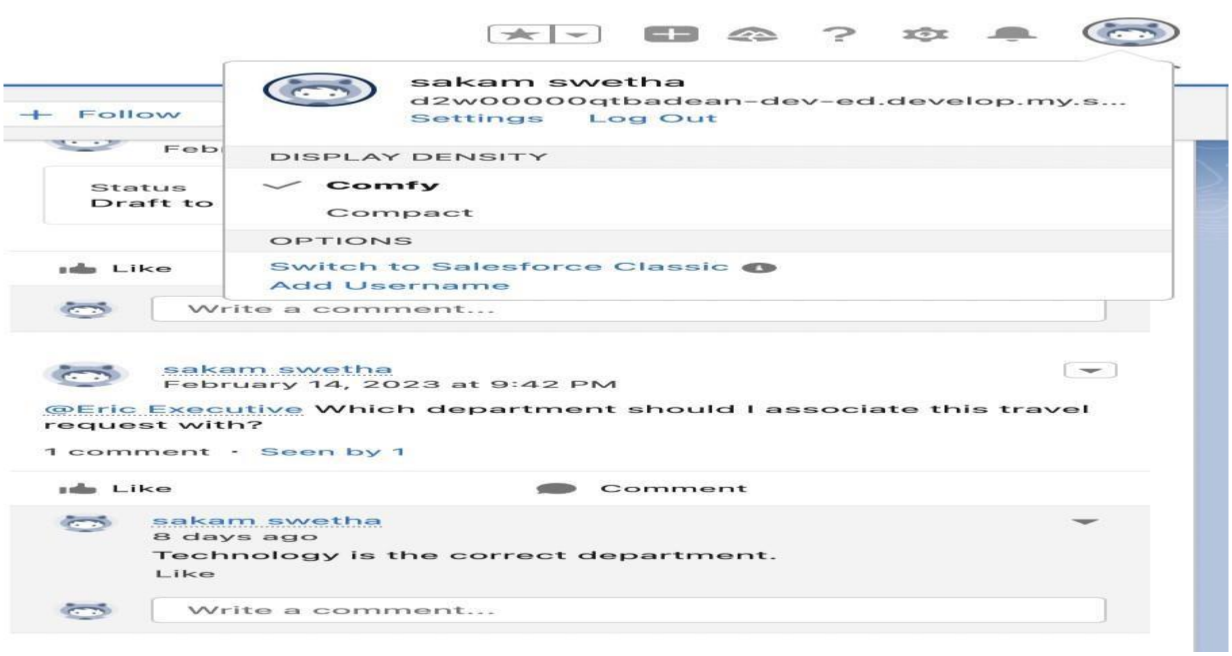
Creating an Approval Process to send travel approvals to manage or travel coordinator







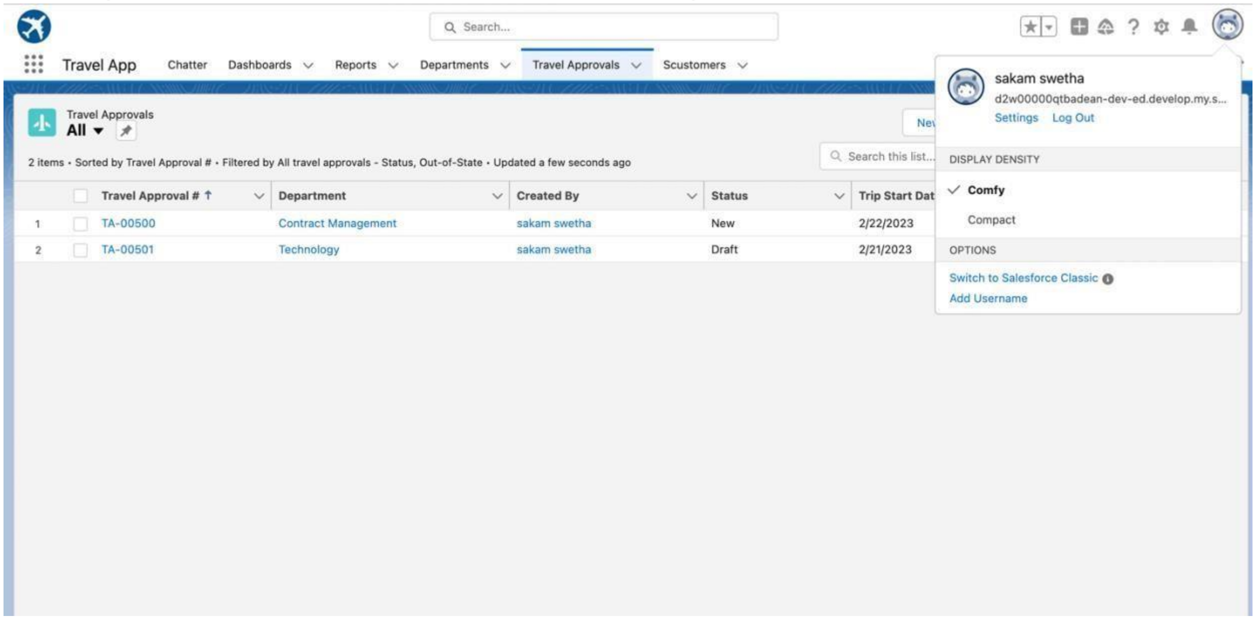
Final Result



Exercise 2:-

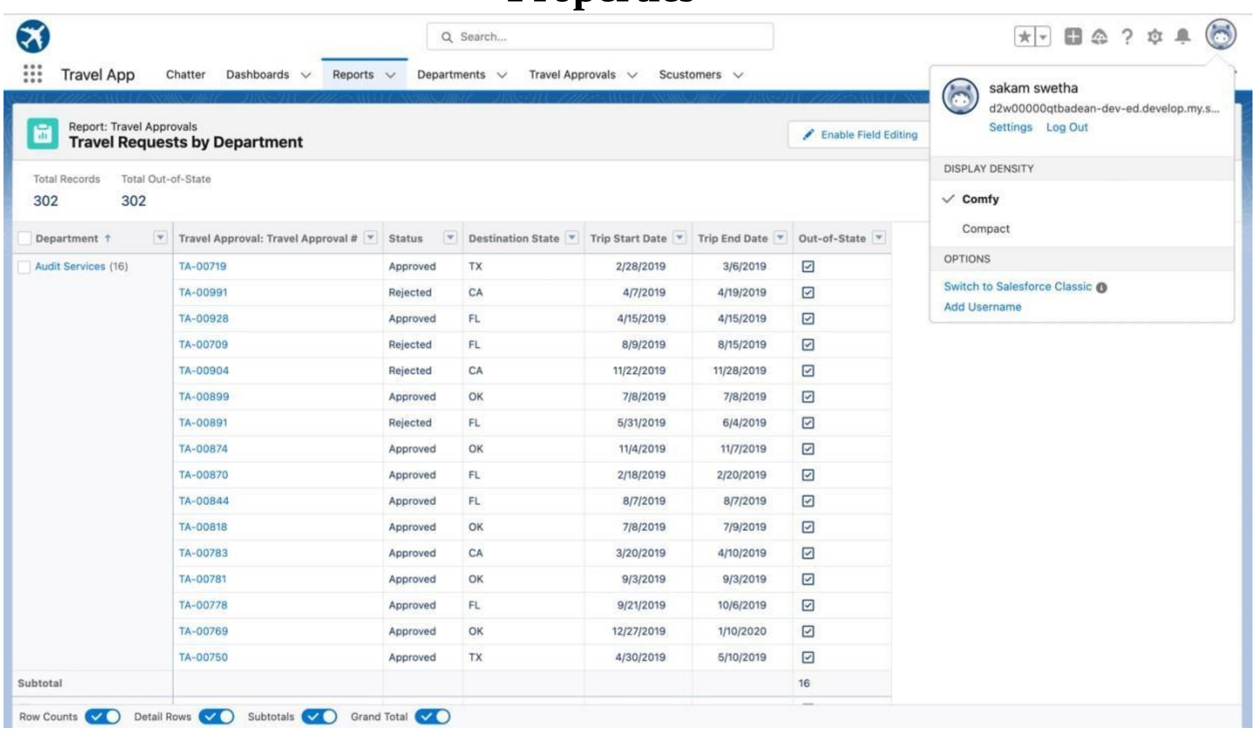
STEP 1:

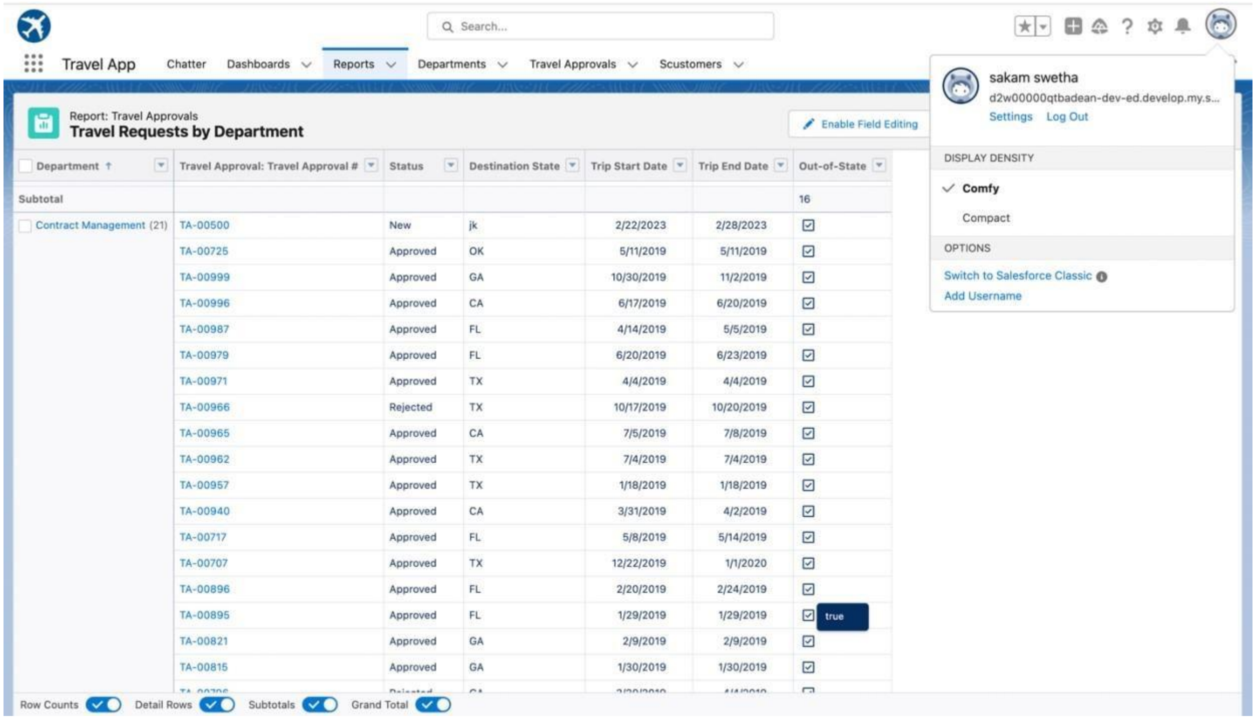
Using Data Import Wizard Importing Travel Approval Records



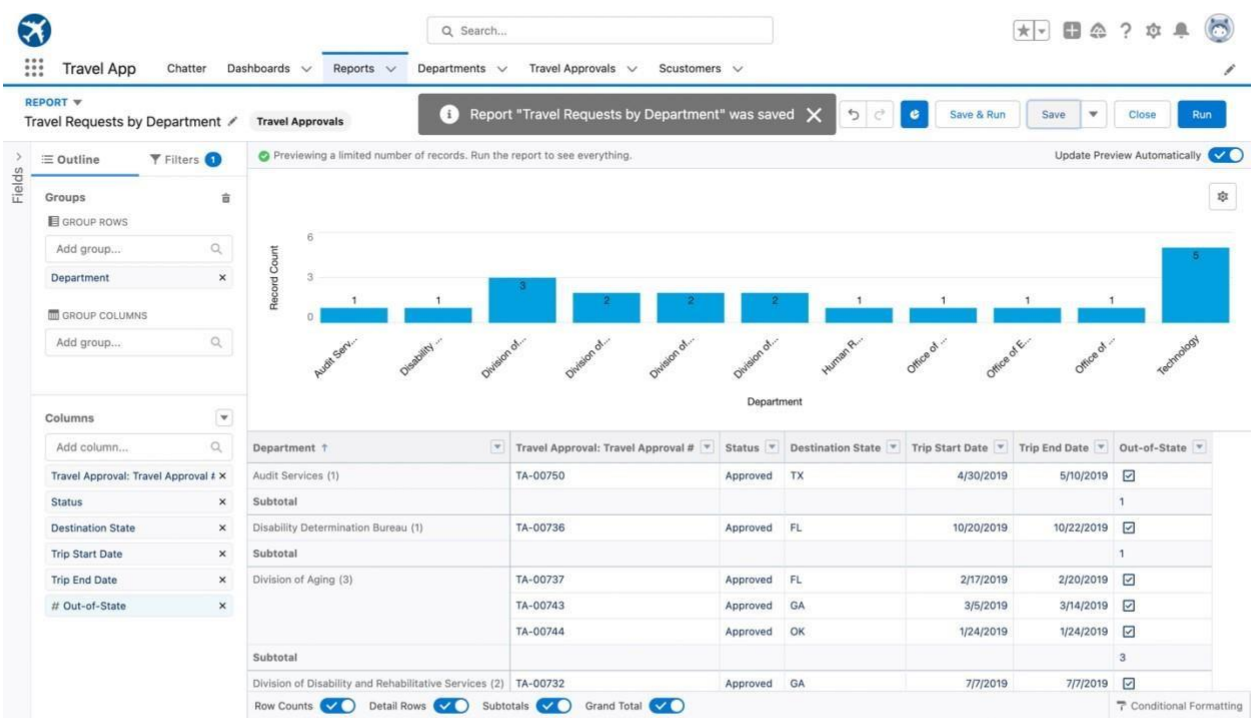
STEP 2:

Creating Travel Request by Department report and add chart Properties



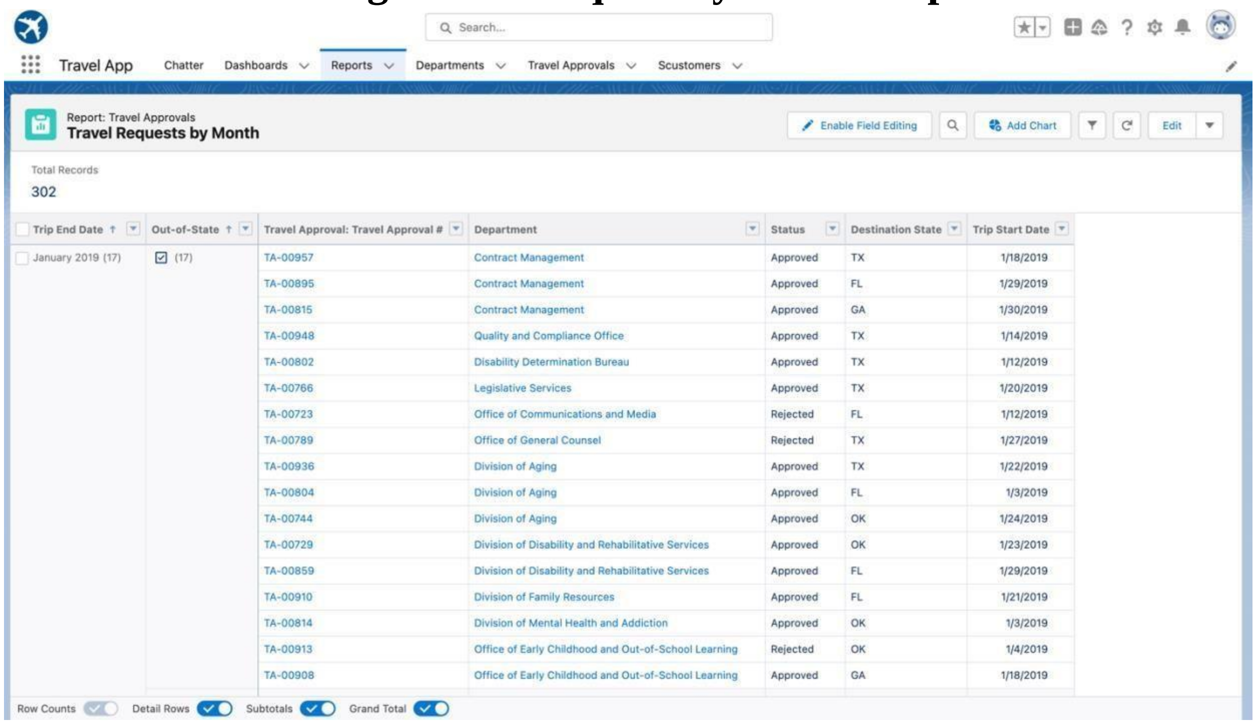


Final Report



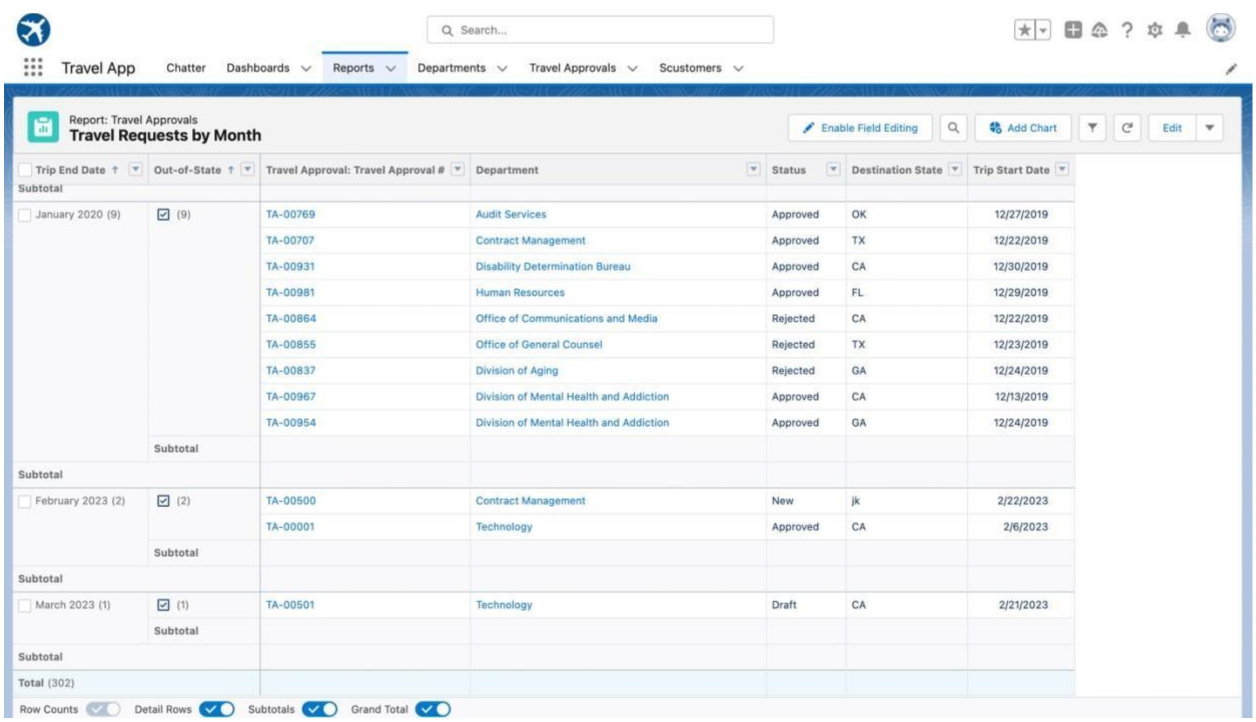
STEP 3:

Creating Travel Request by Month Report



Trip End Date ↑	Out-of-State ↑	Travel Approval: Travel Approval #	Department	Status	Destination State	Trip Start Date
January 2019 (17)	☑ (17)	TA-00957	Contract Management	Approved	TX	1/18/2019
		TA-00895	Contract Management	Approved	FL	1/29/2019
		TA-00815	Contract Management	Approved	GA	1/30/2019
		TA-00948	Quality and Compliance Office	Approved	TX	1/14/2019
		TA-00802	Disability Determination Bureau	Approved	TX	1/12/2019
		TA-00766	Legislative Services	Approved	TX	1/20/2019
		TA-00723	Office of Communications and Media	Rejected	FL	1/12/2019
		TA-00789	Office of General Counsel	Rejected	TX	1/27/2019
		TA-00936	Division of Aging	Approved	TX	1/22/2019
		TA-00804	Division of Aging	Approved	FL	1/3/2019
		TA-00744	Division of Aging	Approved	OK	1/24/2019
		TA-00729	Division of Disability and Rehabilitative Services	Approved	OK	1/23/2019
		TA-00859	Division of Disability and Rehabilitative Services	Approved	FL	1/29/2019
		TA-00910	Division of Family Resources	Approved	FL	1/21/2019
		TA-00814	Division of Mental Health and Addiction	Approved	OK	1/3/2019
		TA-00913	Office of Early Childhood and Out-of-School Learning	Rejected	OK	1/4/2019
		TA-00908	Office of Early Childhood and Out-of-School Learning	Approved	GA	1/18/2019

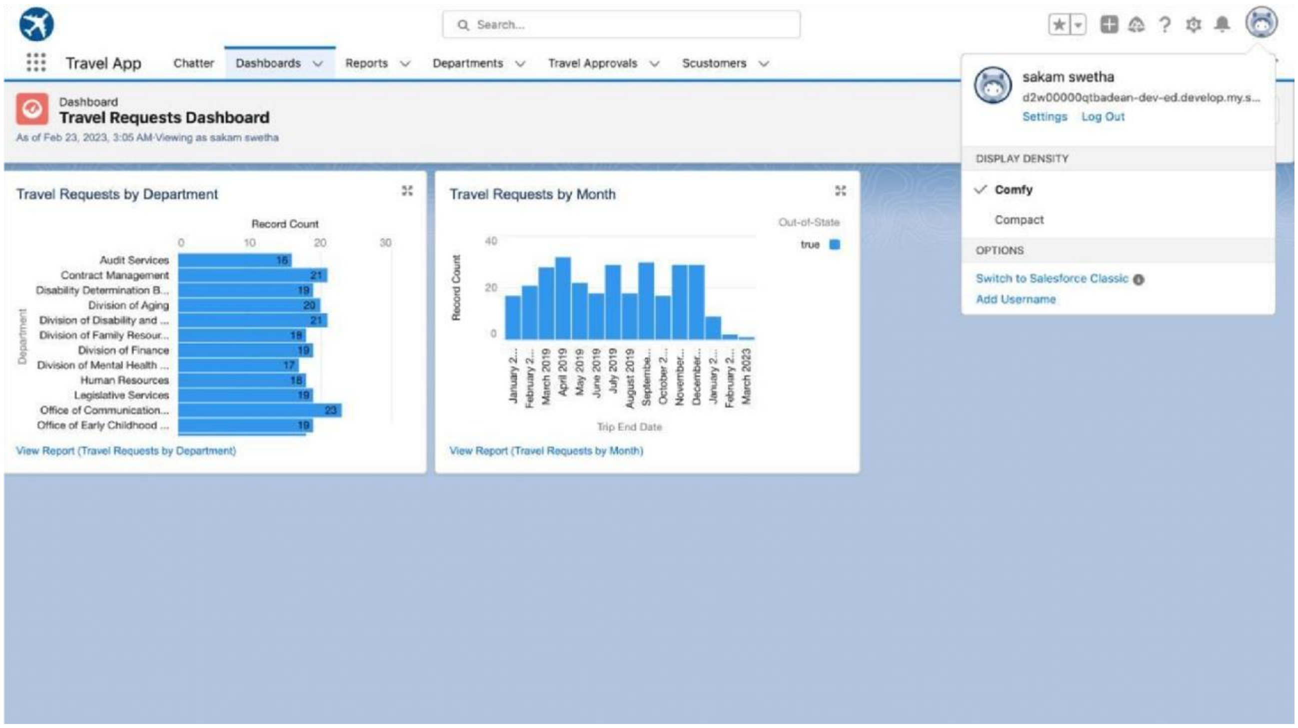
Final Report



Trip End Date ↑	Out-of-State ↑	Travel Approval: Travel Approval #	Department	Status	Destination State	Trip Start Date
Subtotal						
January 2020 (9)	☑ (9)	TA-00769	Audit Services	Approved	OK	12/27/2019
		TA-00707	Contract Management	Approved	TX	12/22/2019
		TA-00931	Disability Determination Bureau	Approved	CA	12/30/2019
		TA-00981	Human Resources	Approved	FL	12/29/2019
		TA-00864	Office of Communications and Media	Rejected	CA	12/22/2019
		TA-00855	Office of General Counsel	Rejected	TX	12/23/2019
		TA-00837	Division of Aging	Rejected	GA	12/24/2019
		TA-00967	Division of Mental Health and Addiction	Approved	CA	12/13/2019
		TA-00954	Division of Mental Health and Addiction	Approved	GA	12/24/2019
	Subtotal					
Subtotal						
February 2023 (2)	☑ (2)	TA-00500	Contract Management	New	jk	2/22/2023
		TA-00001	Technology	Approved	CA	2/6/2023
	Subtotal					
Subtotal						
March 2023 (1)	☑ (1)	TA-00501	Technology	Draft	CA	2/21/2023
	Subtotal					
Subtotal						
Total (302)						

STEP 4:

Final Dashboard

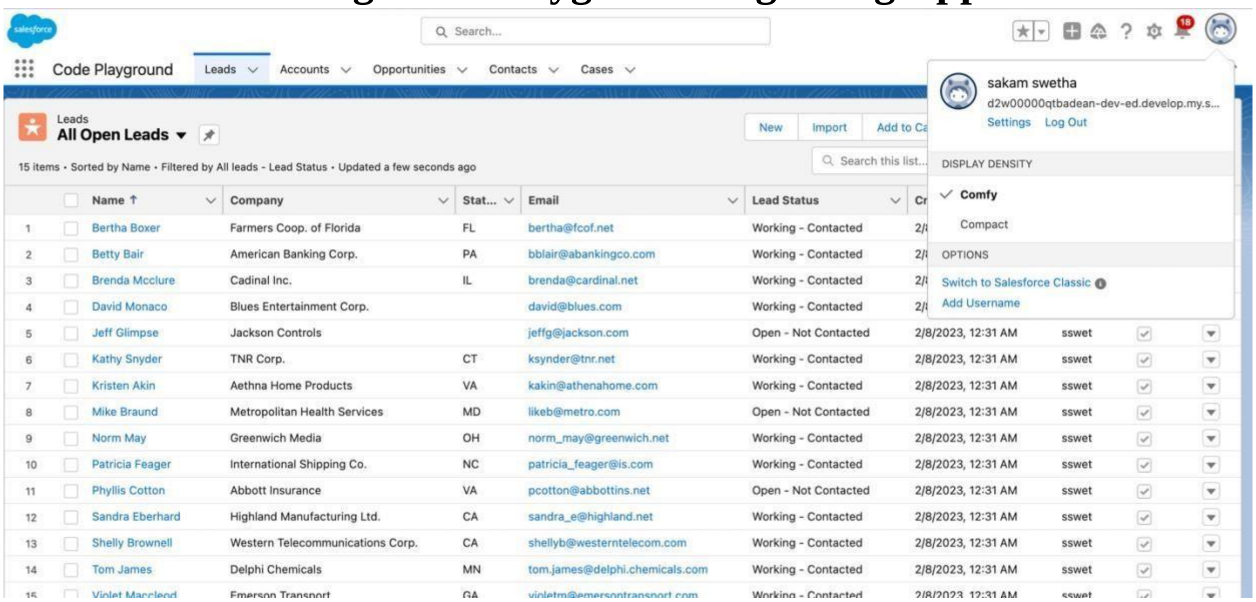


MODULE 3

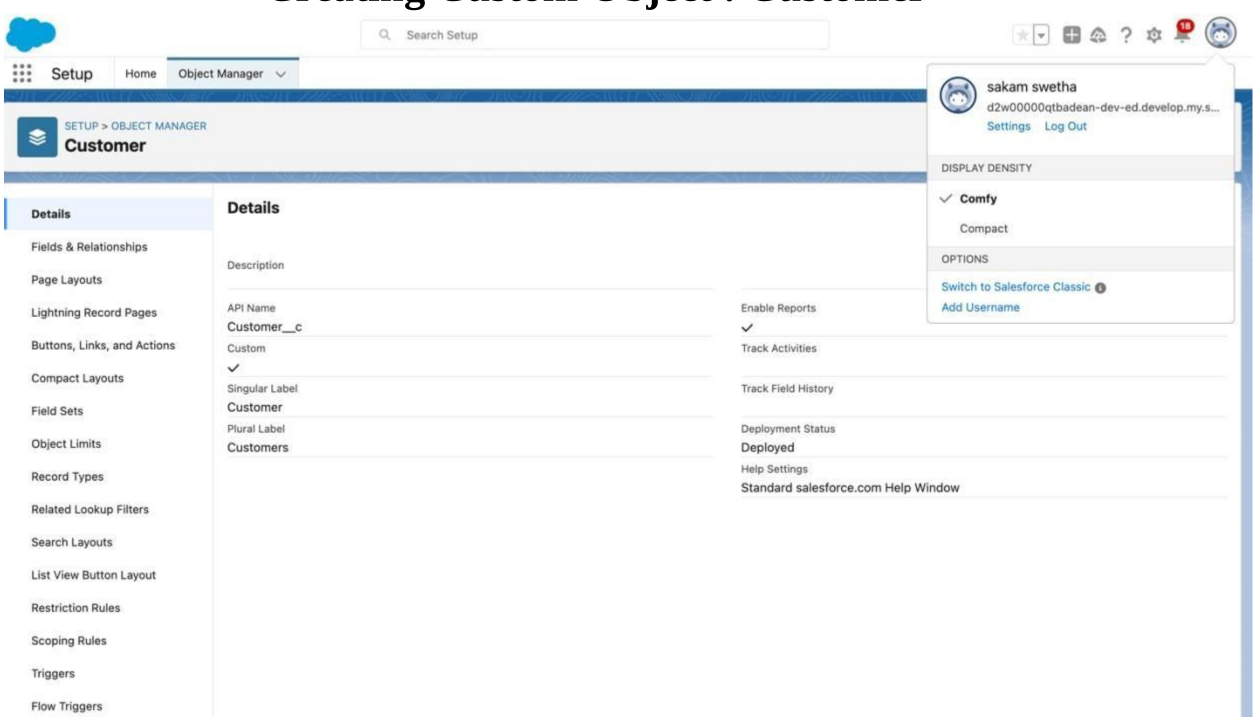
Exercise 1:-

STEP 1:

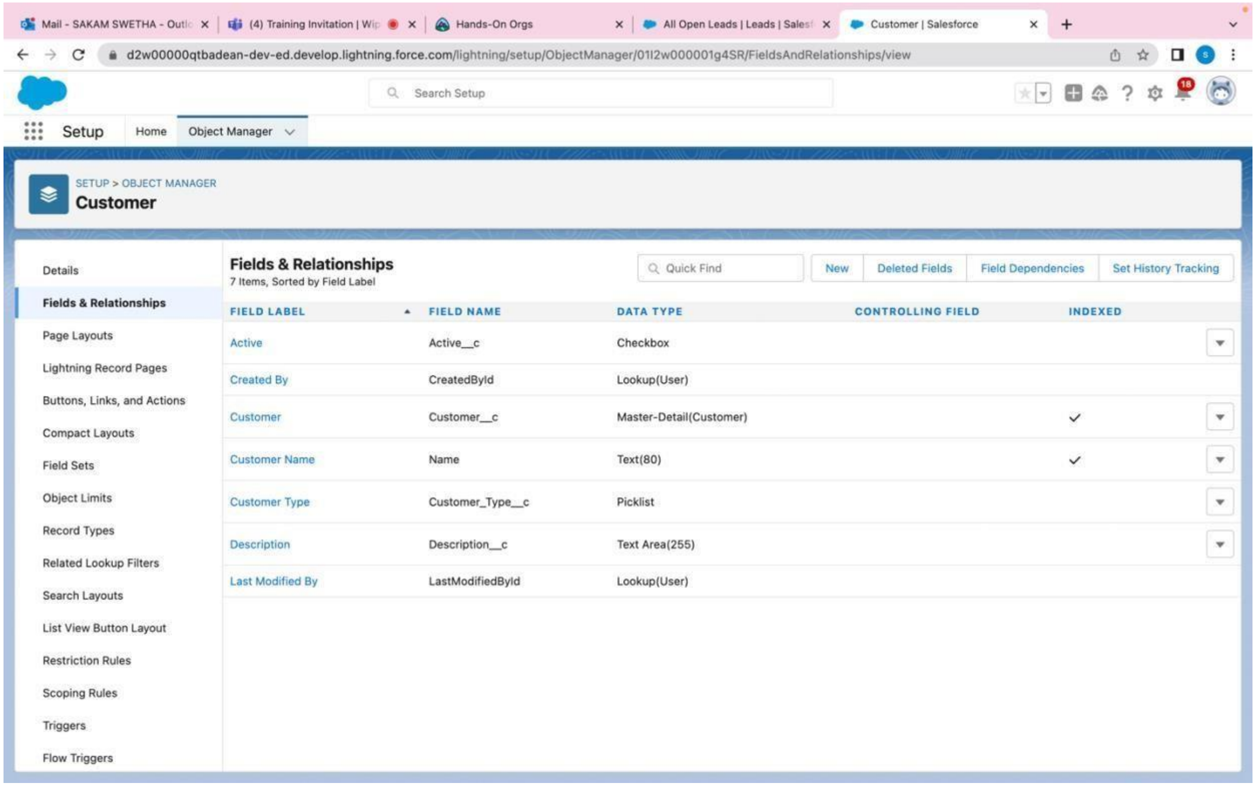
Creating Code Playground Lightning App



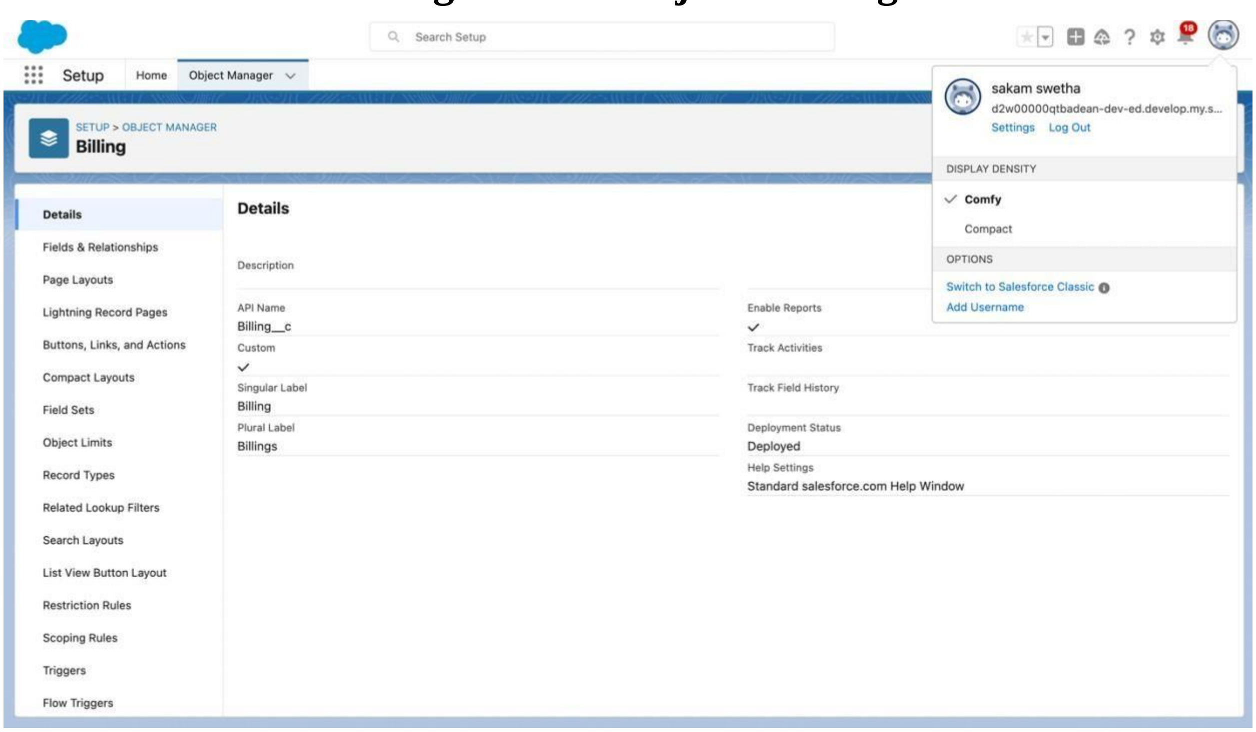
Creating Custom Object : Customer



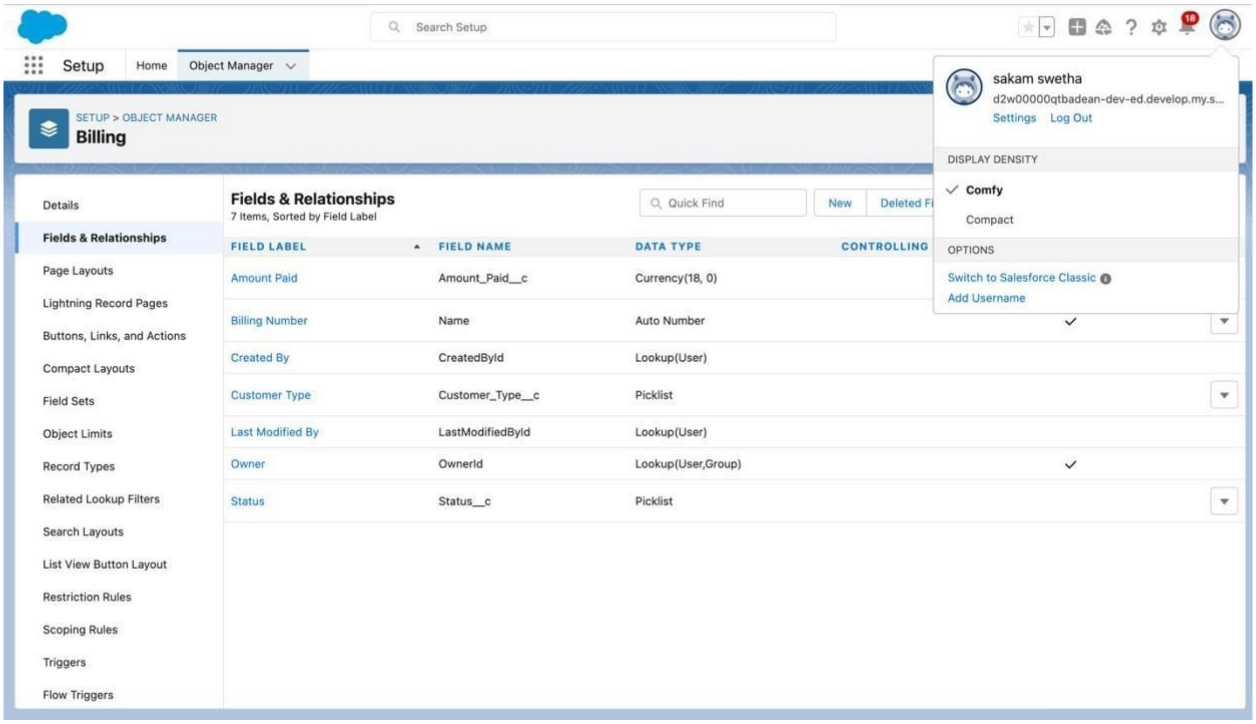
Creating Custom Fields on Customer Object



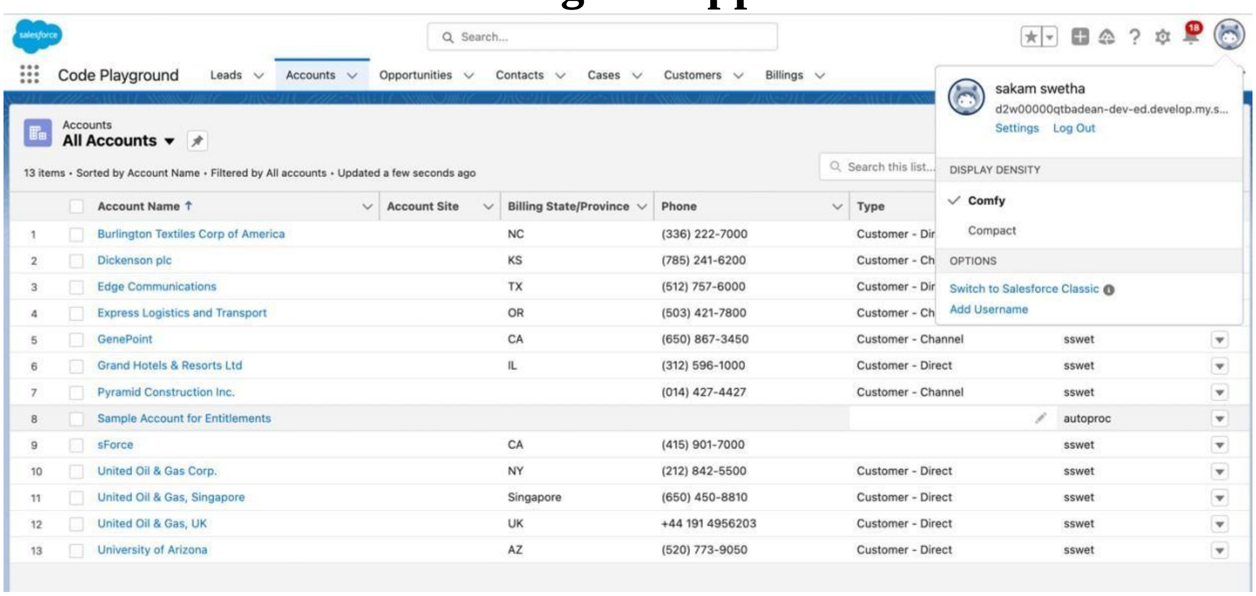
Creating Custom Object : Billing



Creating Custom Fields on Billing Object

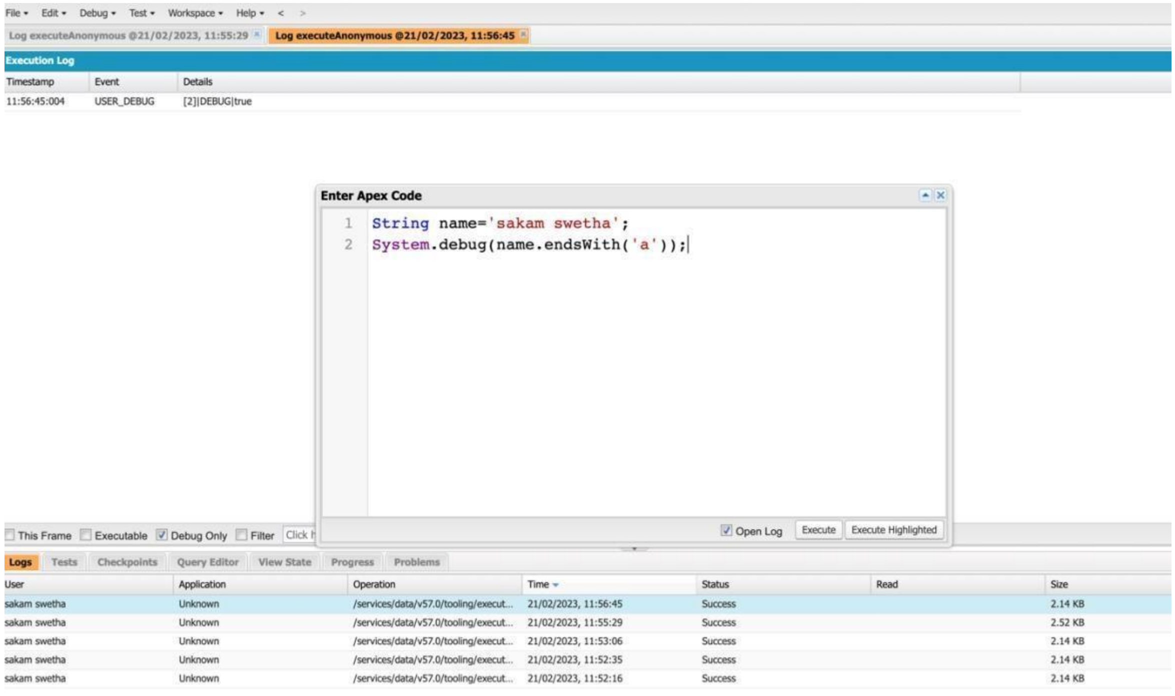


Testing the App

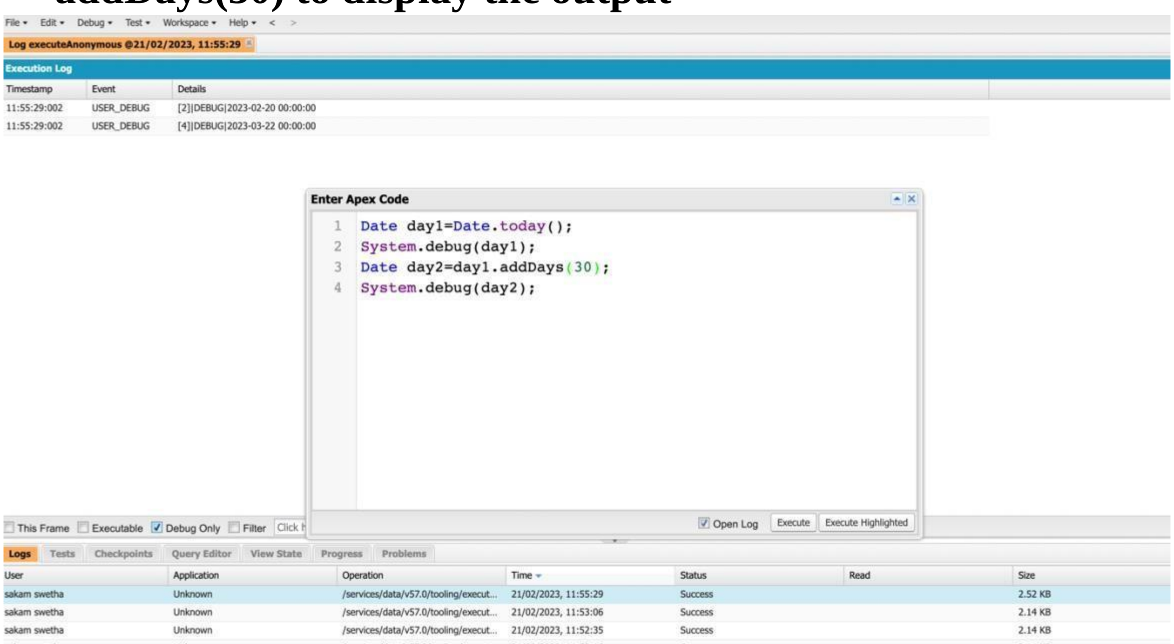


Exercise 2 :-

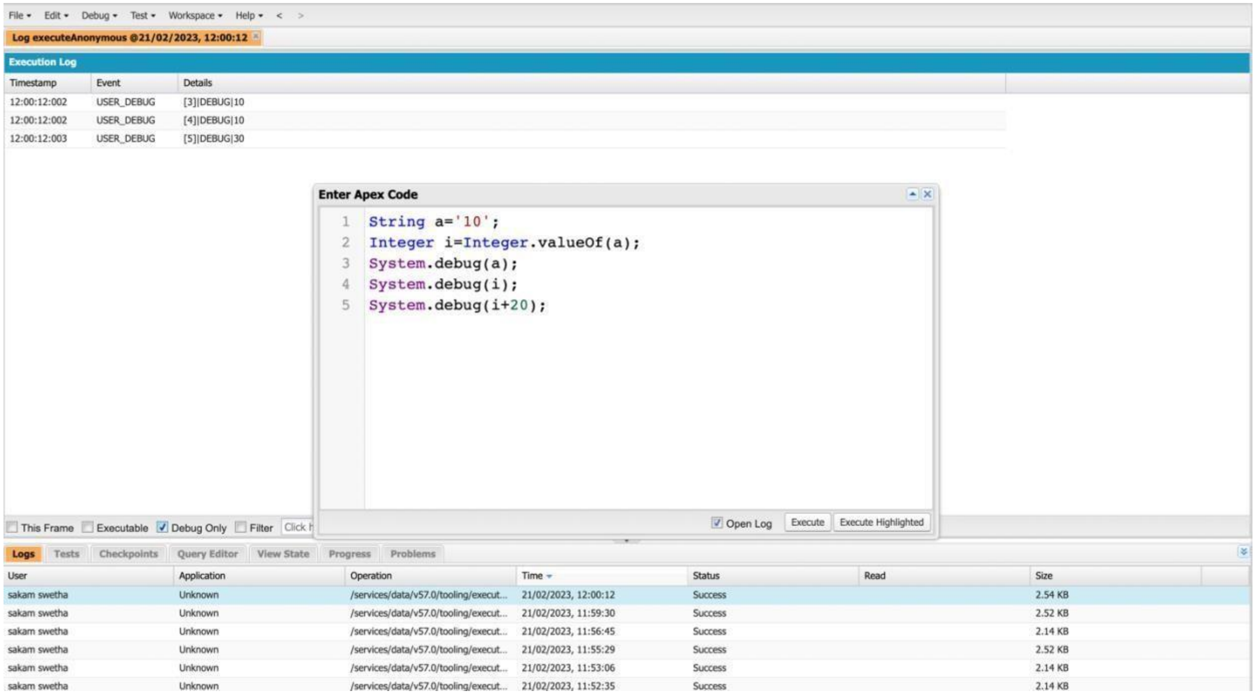
1. Define a String Variable & use string method 'endsWith' to display the output.



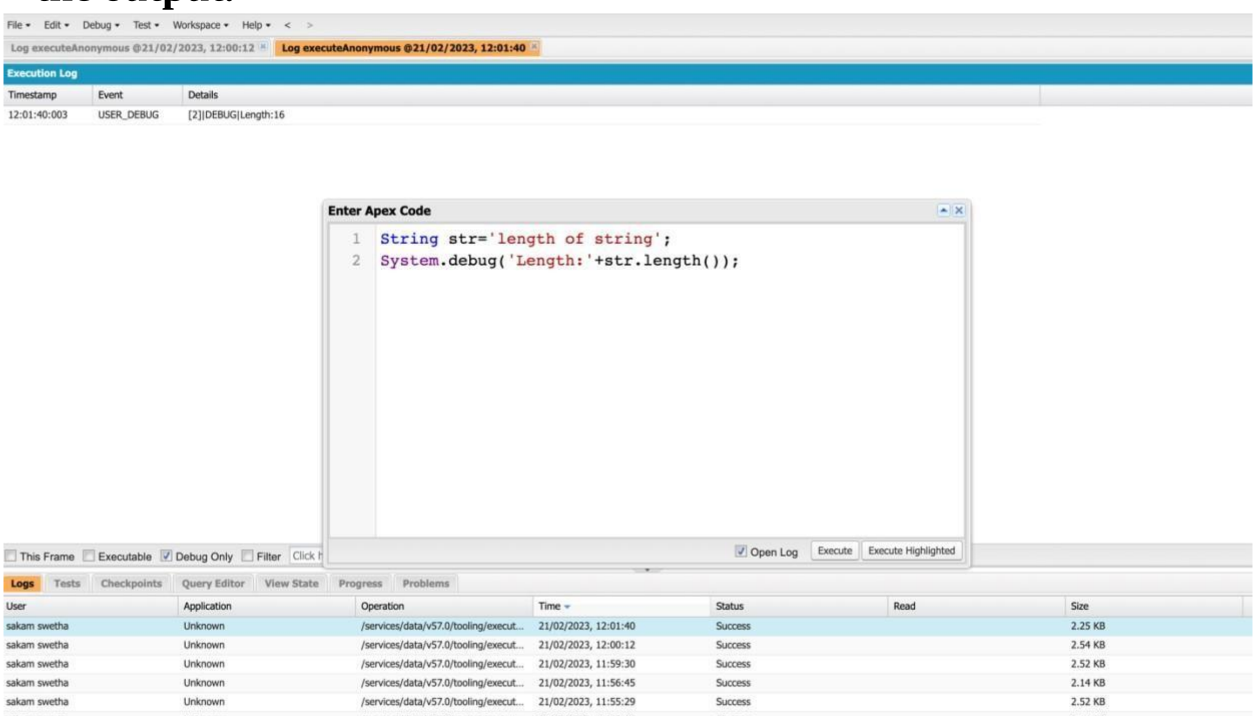
2. Define 2 Date type variables, use Date method today() & addDays(30) to display the output



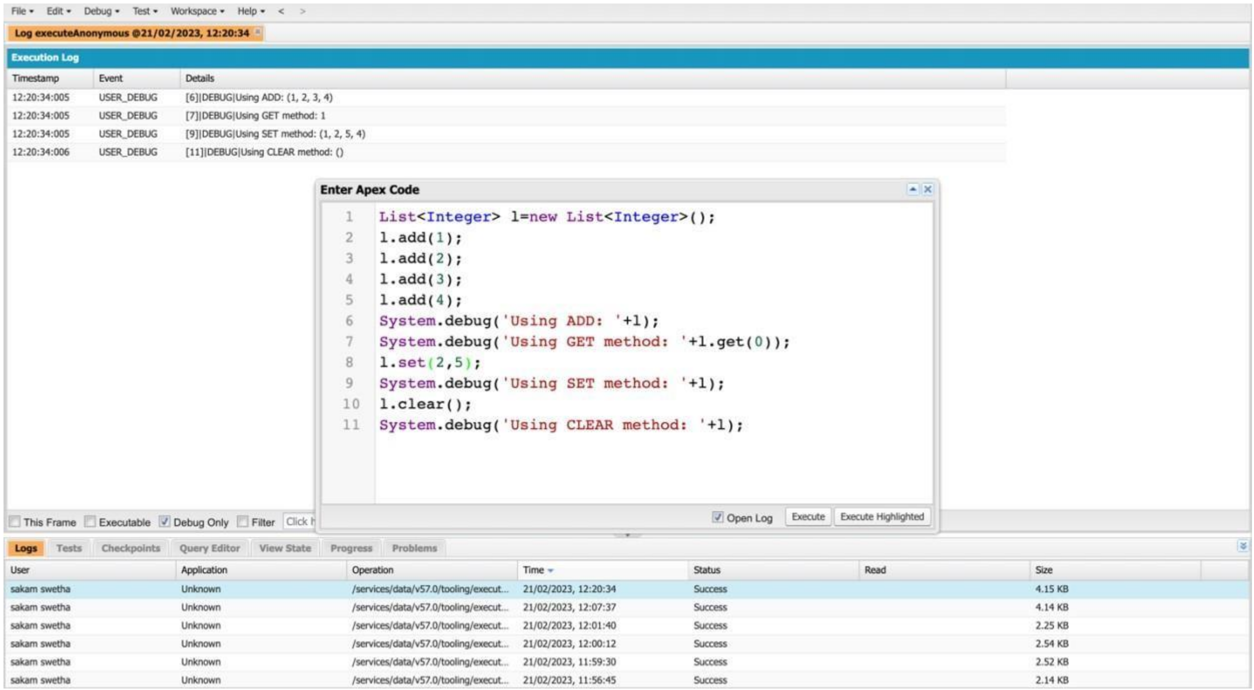
3. Display the output of an Integer variable from string ‘10’ and then add 20 to it.



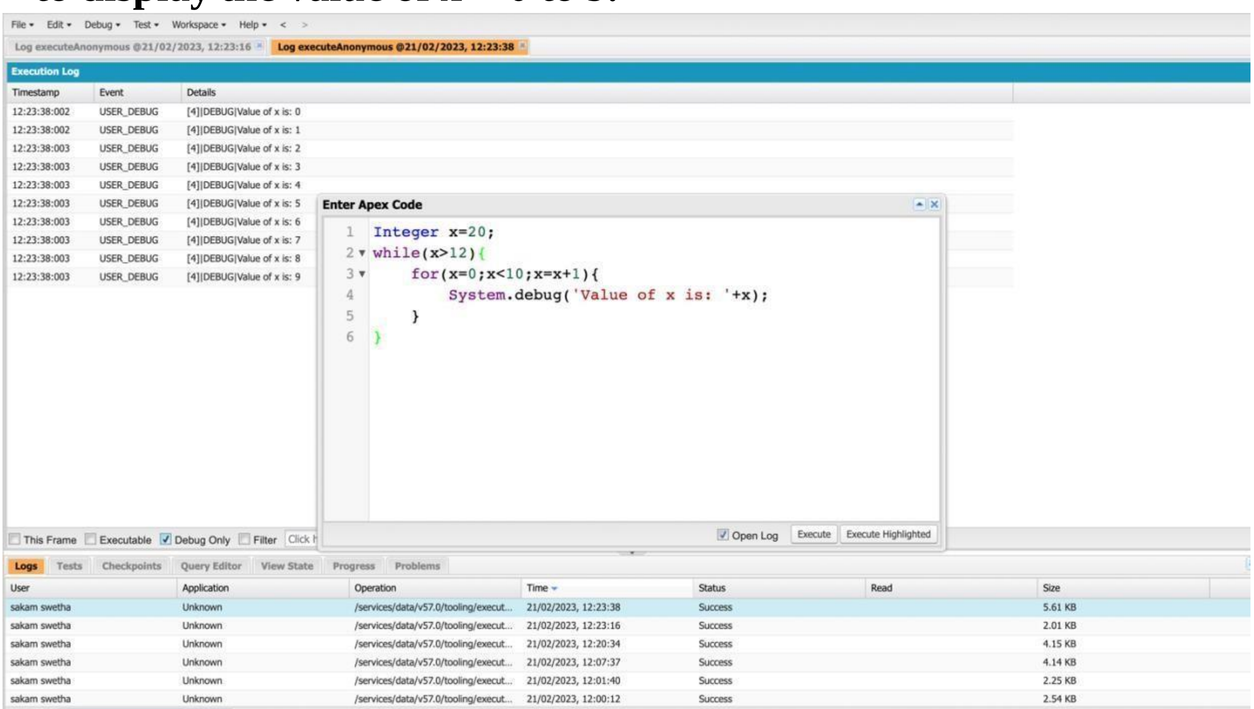
4. Define a String Variable & use string method length() to display the output.



5. Define a List of integer and display the output using add(), get(), set(), clear(), methods.

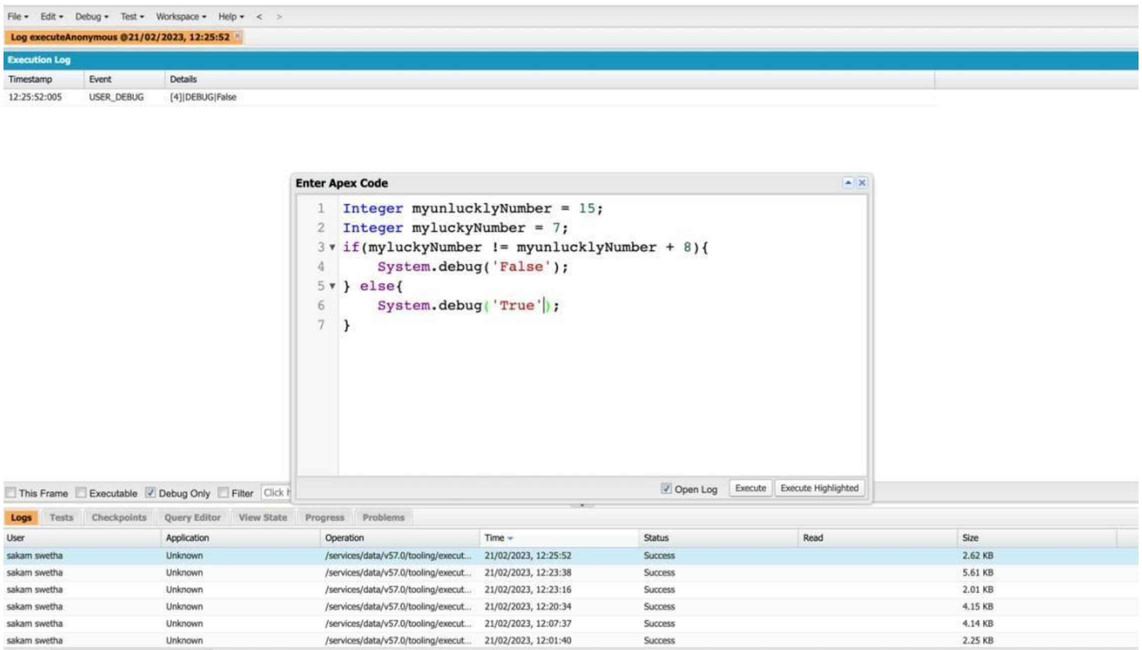


6. Use Execute Anonymous to define and execute the following code to display the value of x = 0 to 9.



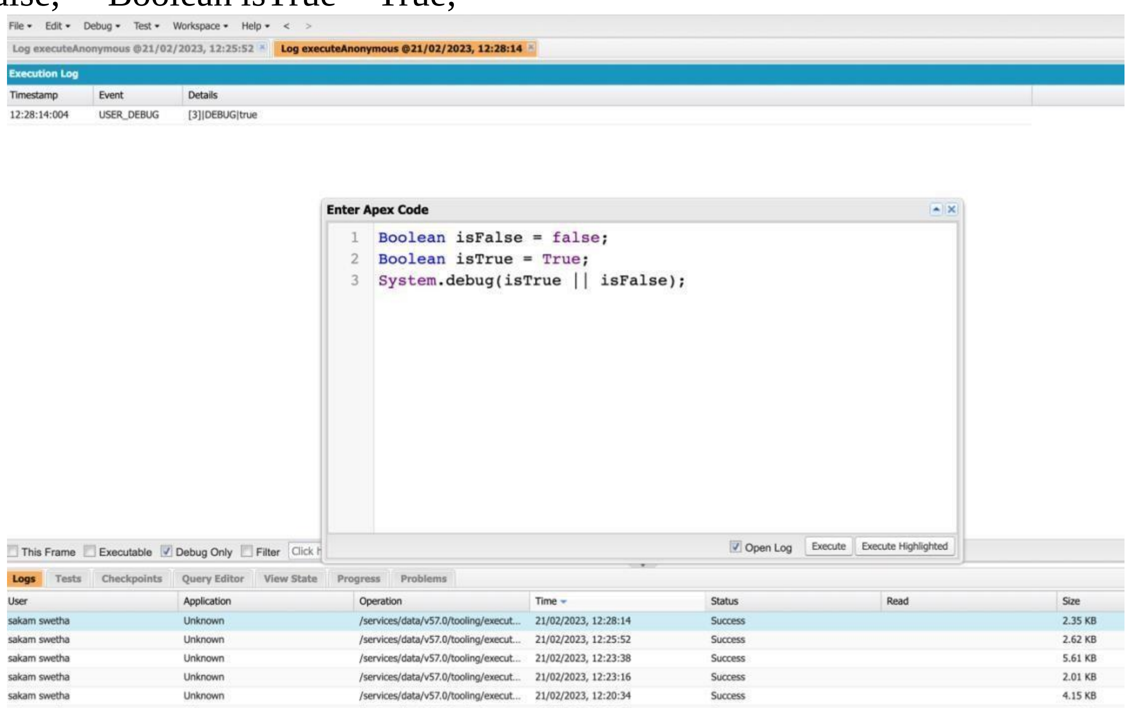
Exercise 3

Integer myluckyNumber = 15; Integer myunlucklyNumber = 7; myluckyNumber != myunlucklyNumber + 8



Exercise 4

Answer the following in True Or False: isTrue || isFalse   Boolean isFalse = false;   Boolean isTrue = True;

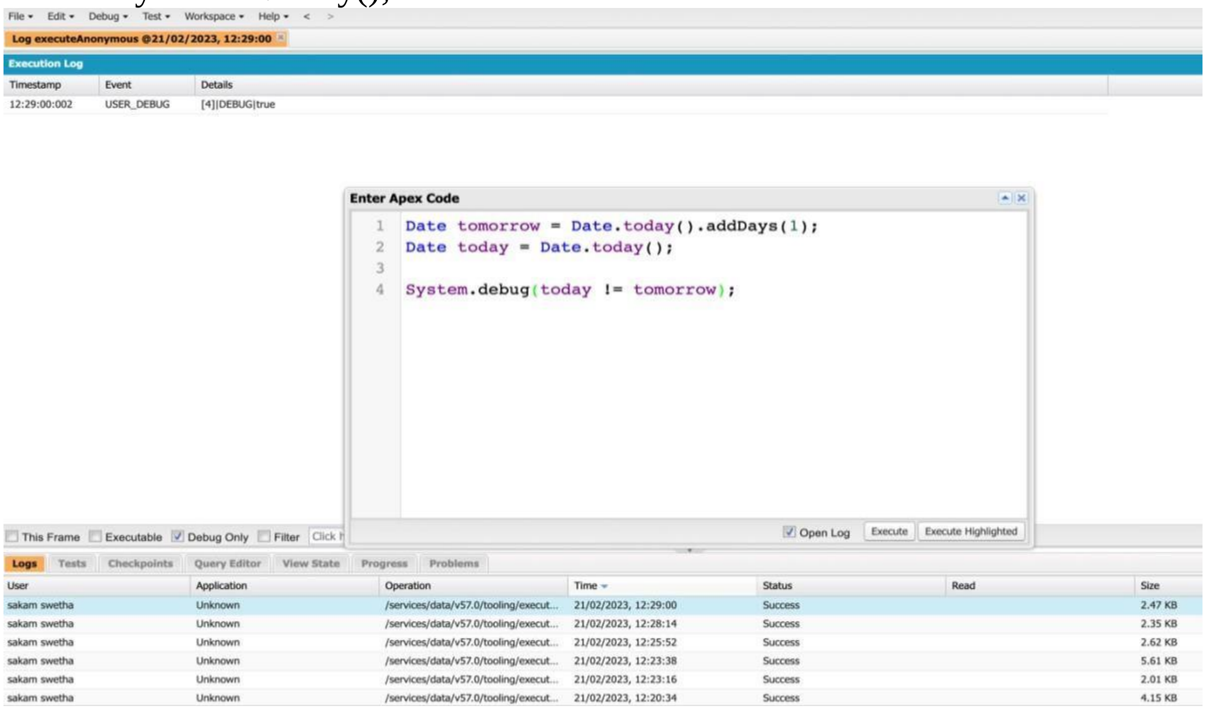


Exercise 5

today != tomorrow

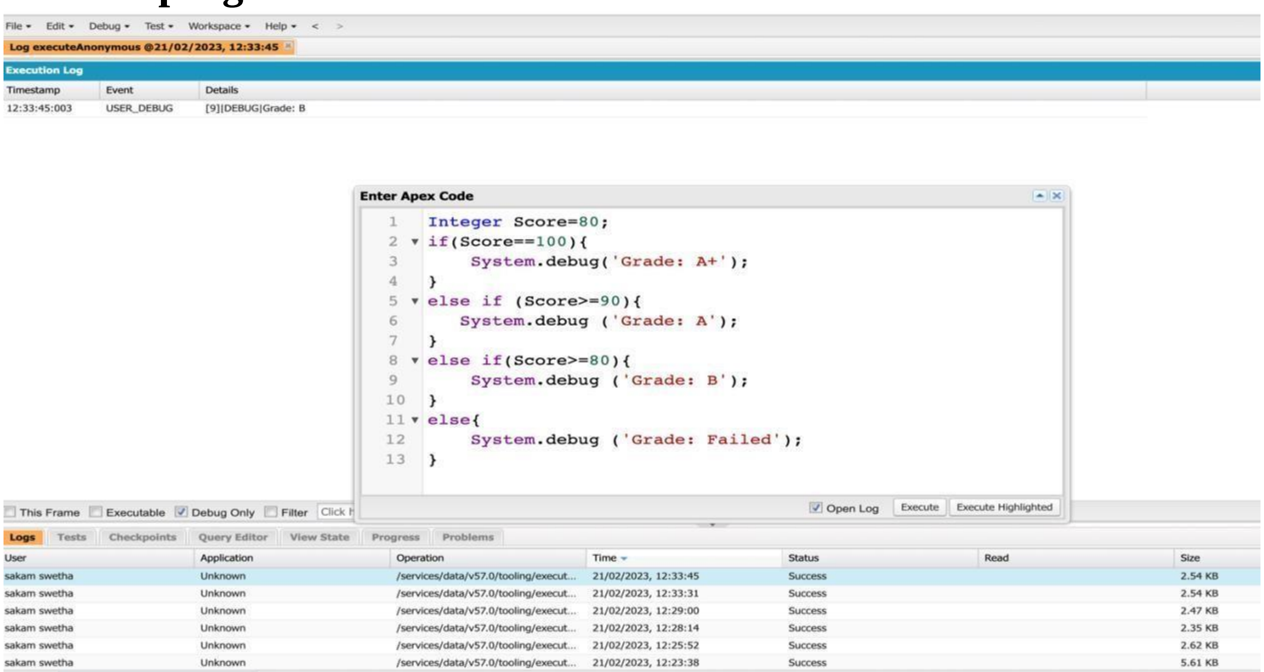
Date tomorrow = Date.today().addDays(1);

Date today = Date.today();



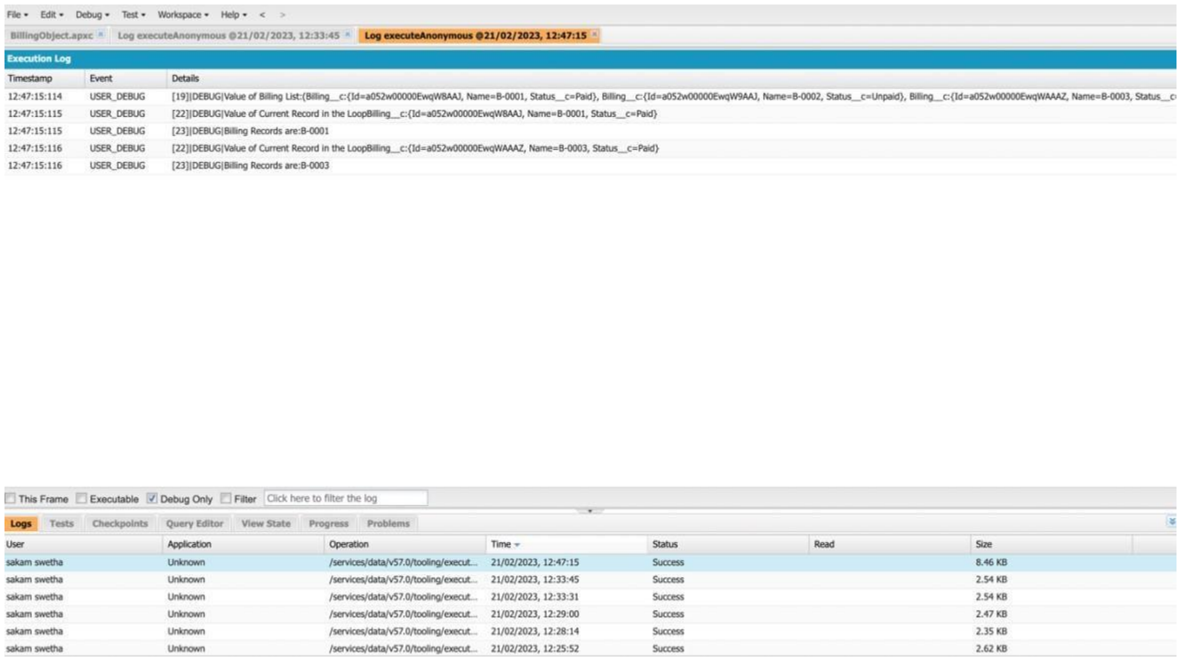
Exercise 6

Write a program and execute to demo the use of "If..else if...else"



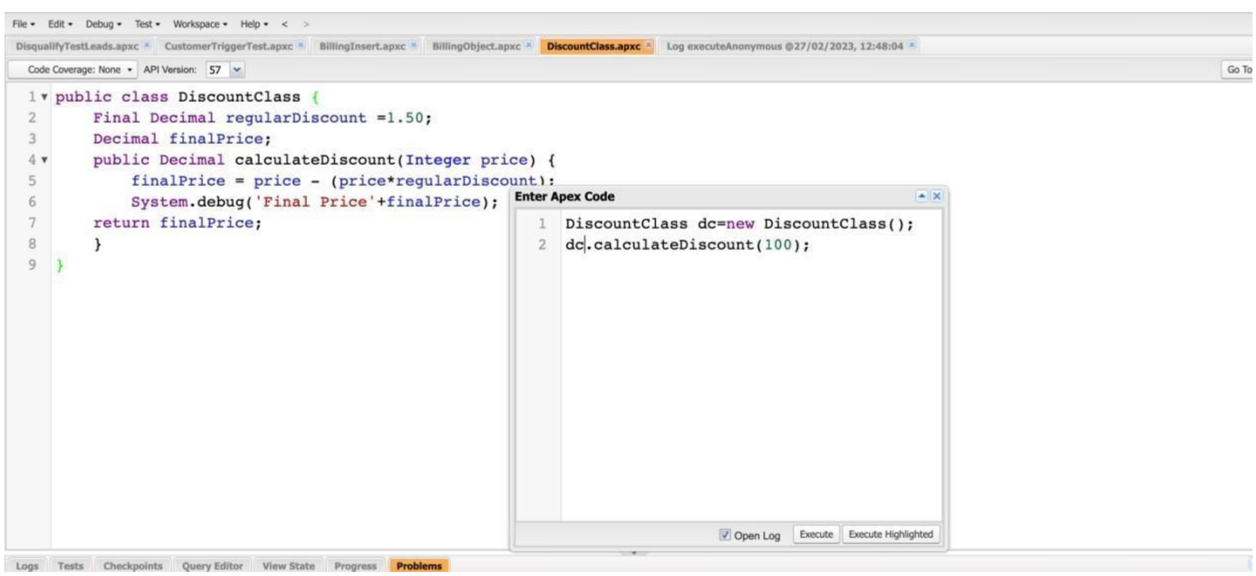
Exercise 7

Write a program to execute and demo the use of "Apex – for Loop"



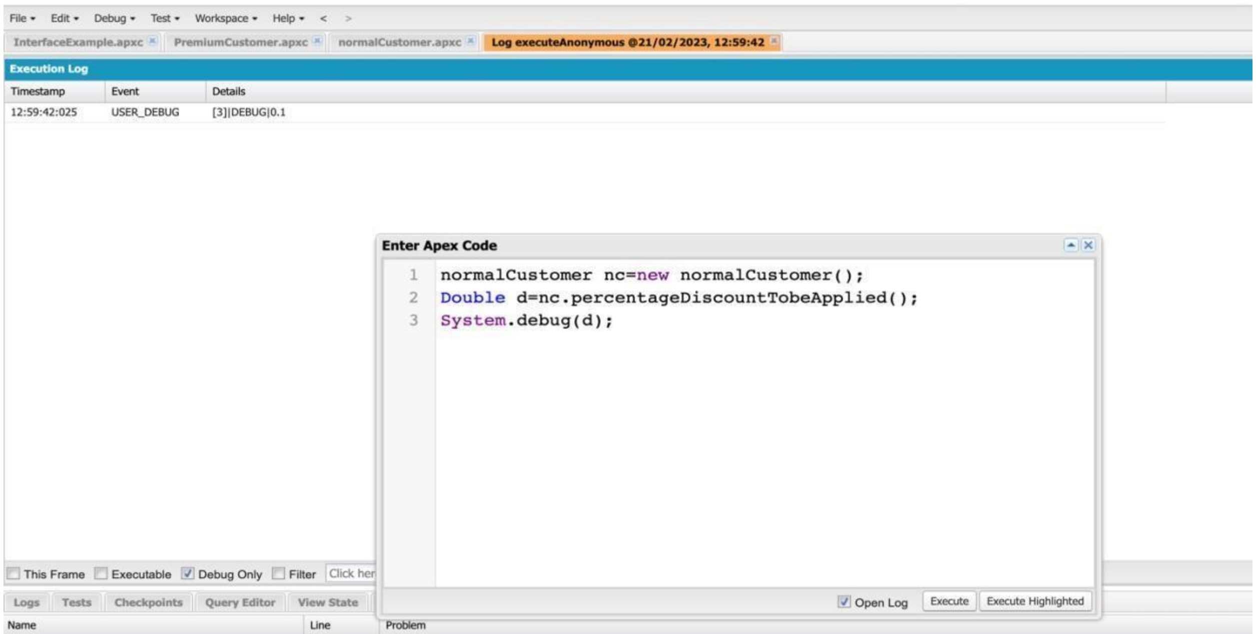
Exercise 8

Write a Class to demo the use of Constants in Apex



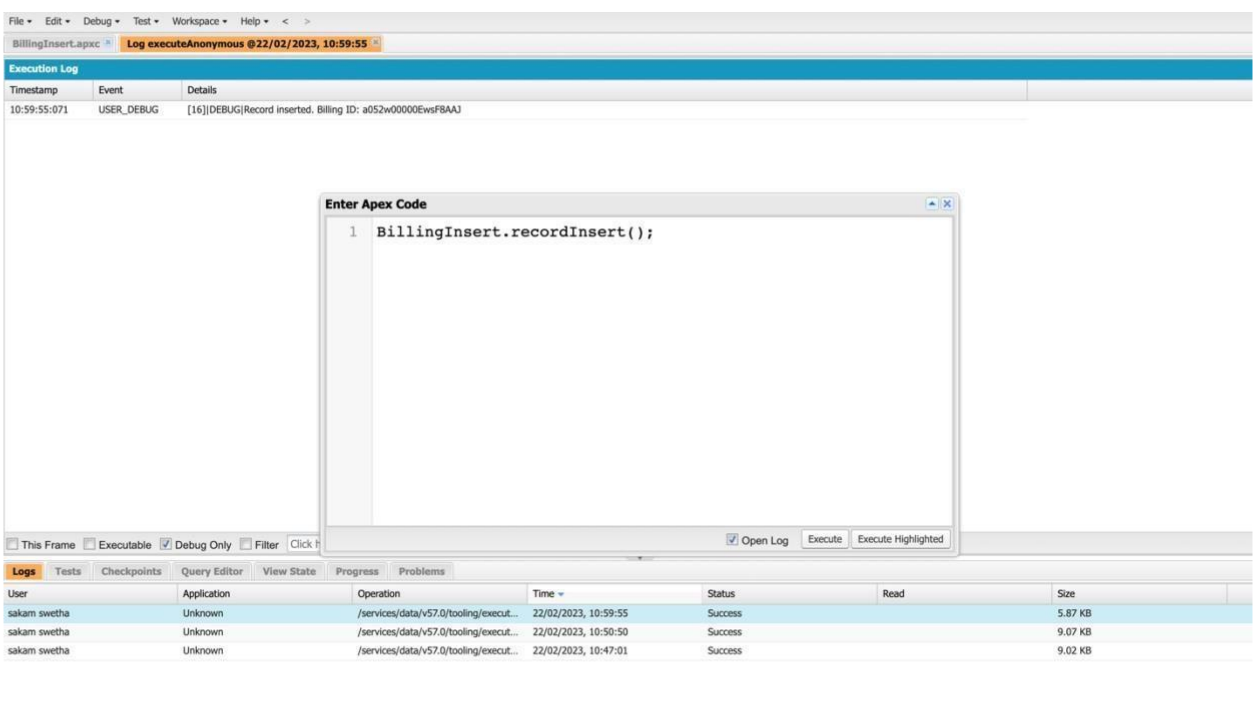
Exercise 9

Write a Class to demo the use of Interface in Apex



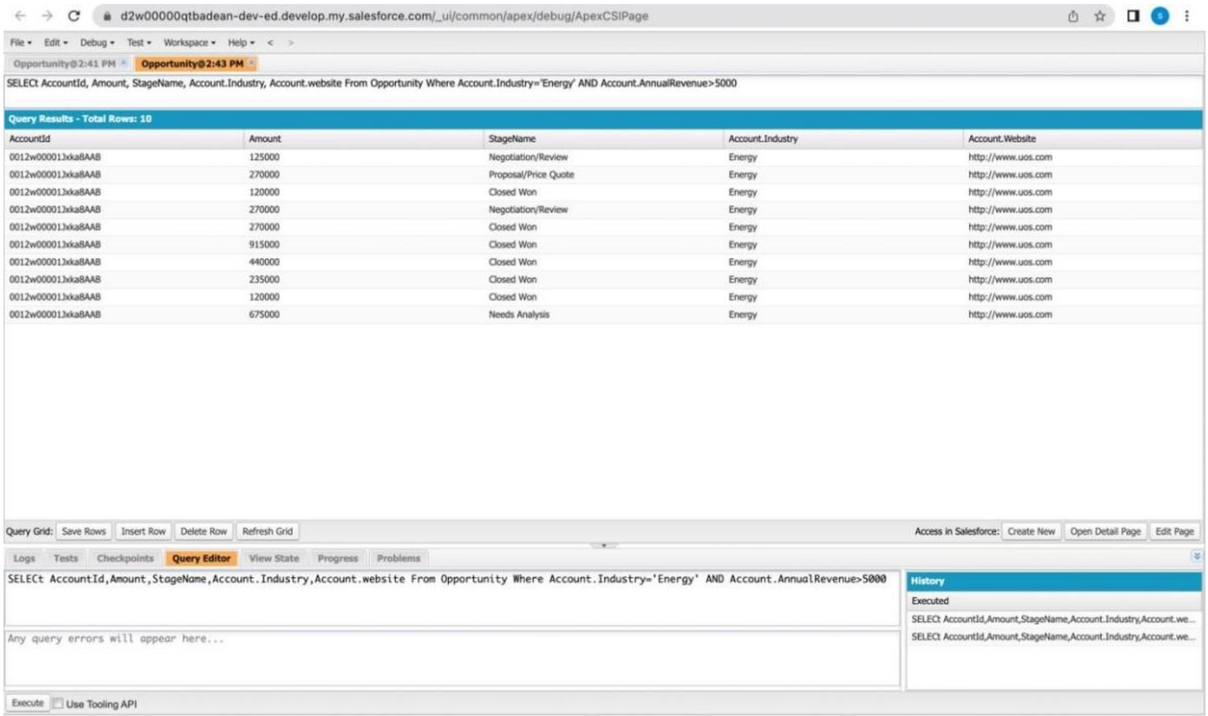
Exercise 10

Demo on DML Insert Operation Using Database methods



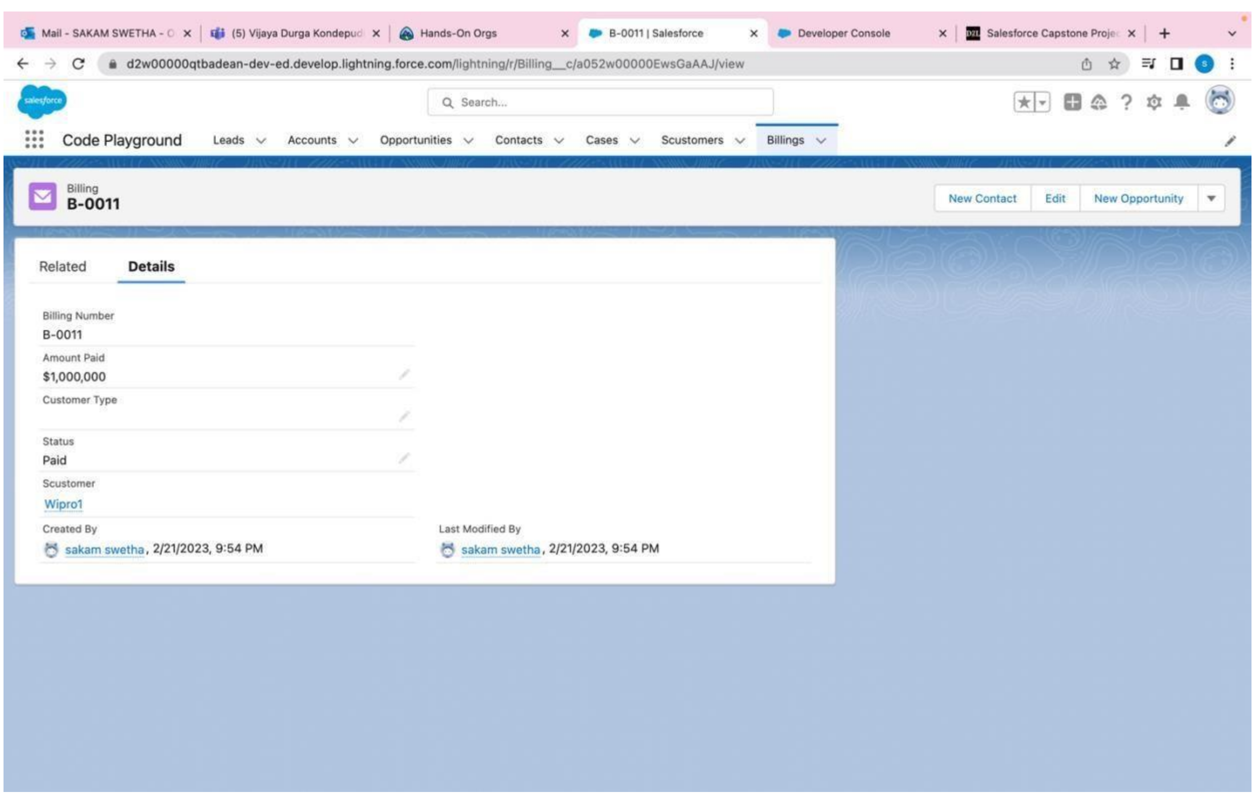
Exercise 11

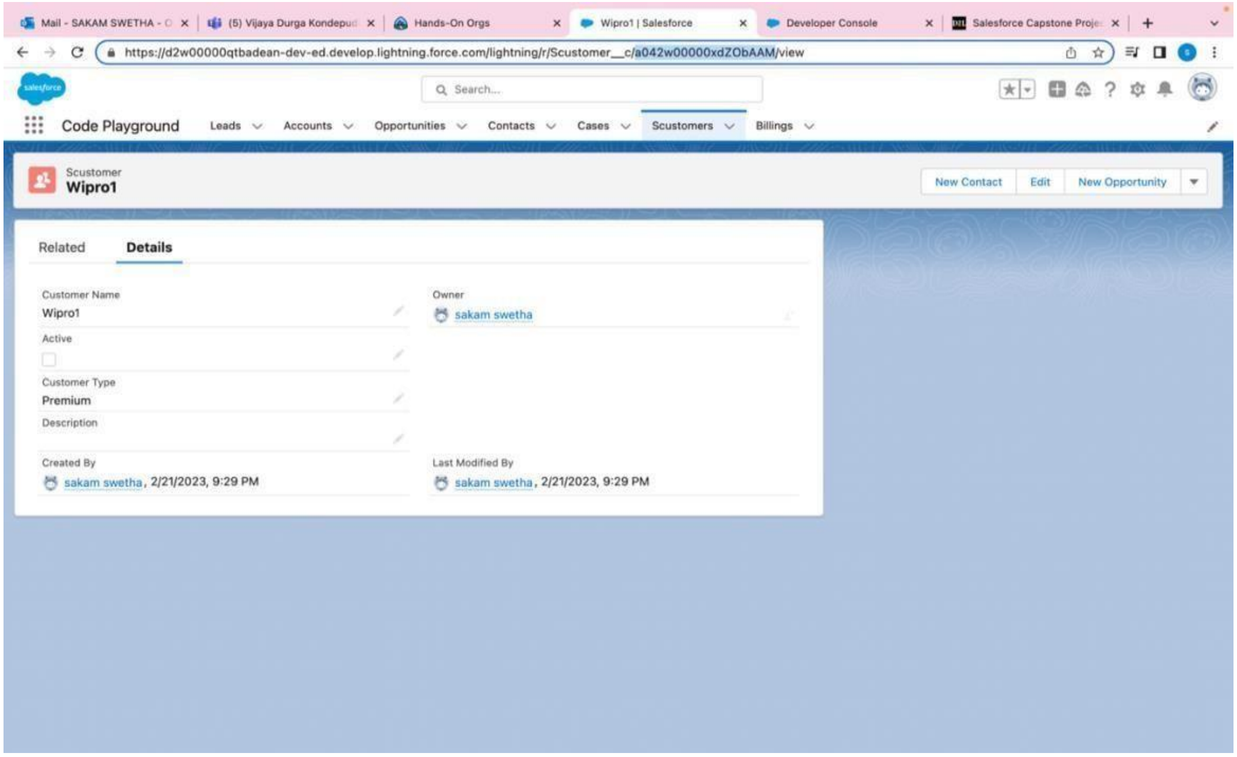
Write and execute SOQL queries from Developer Console



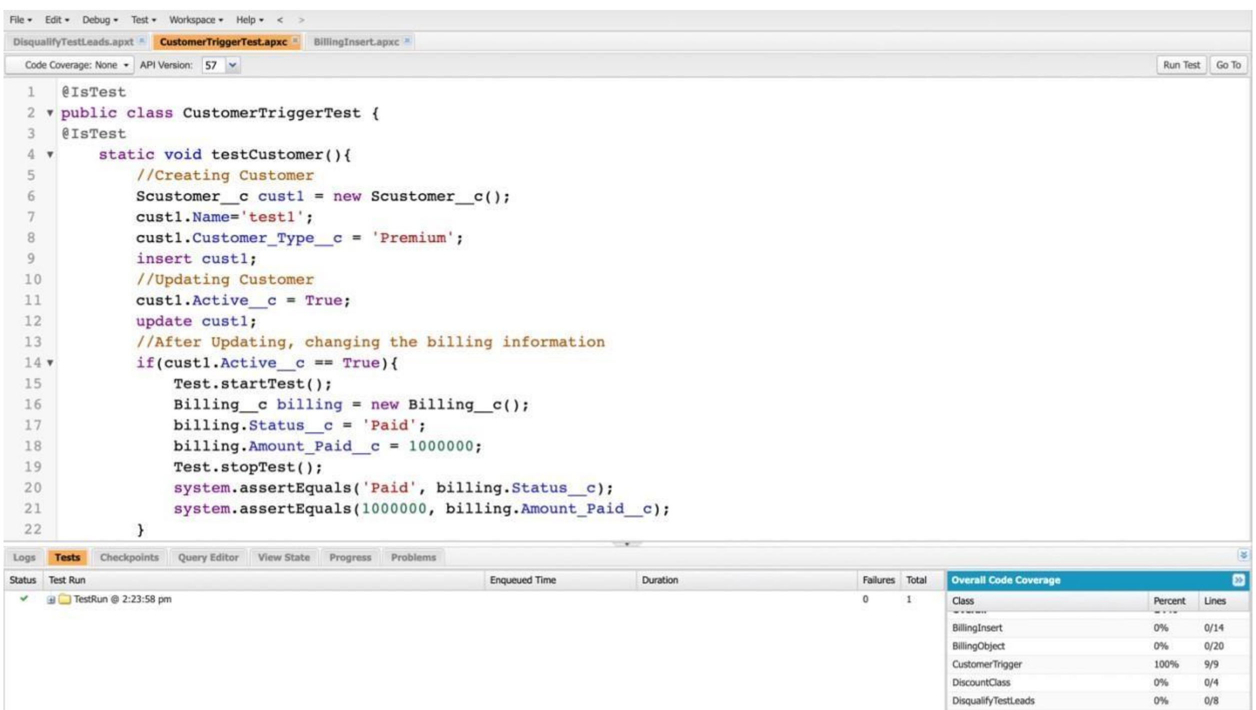
Exercise 12

Write an Apex Trigger, Name = CustomerTrigger.





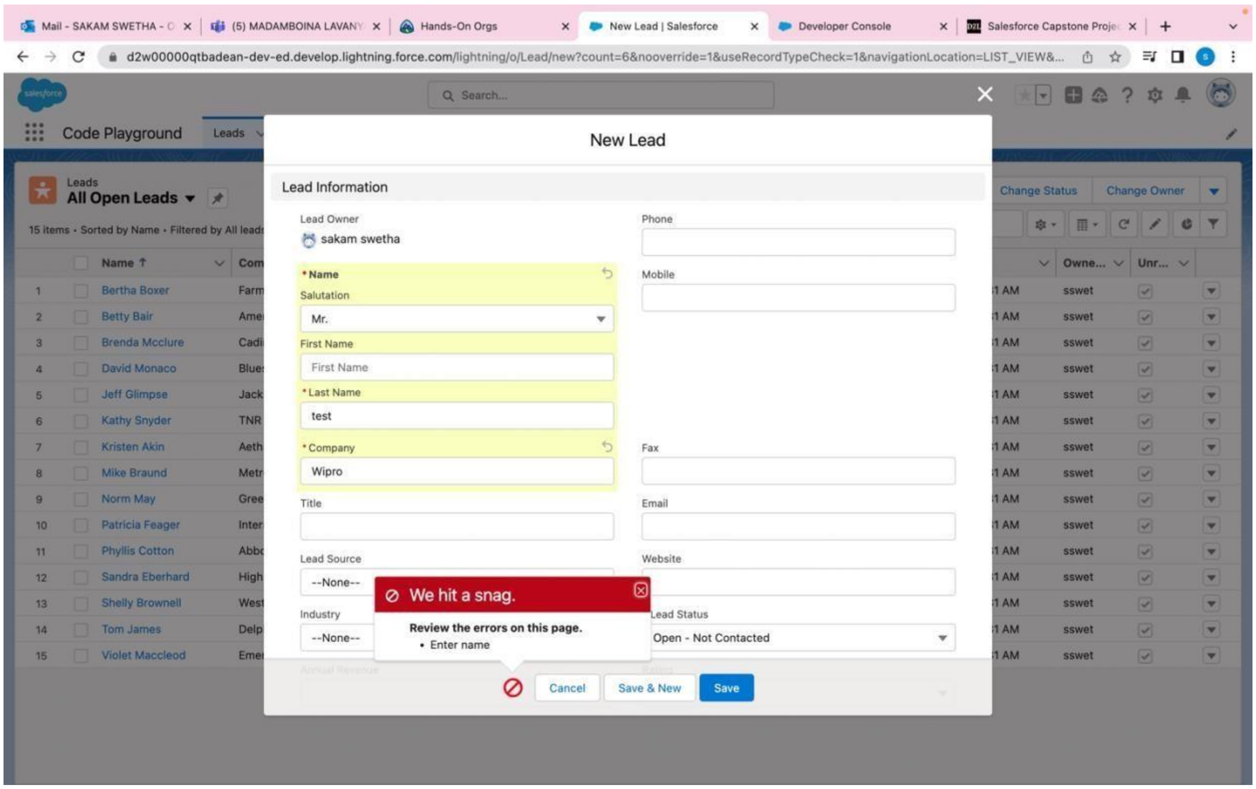
https://d2w00000qtbadean-dev-ed.develop.lightning.force.com/lightning/r/Scustomer__c/a042w00000xdZObAAM/view
Code Playground
Leads
Accounts
Opportunities
Contacts
Cases
Scustomers
Billings
Scustomer
Wipro1
New Contact
Edit
New Opportunity
Related
Details
Customer Name
Wipro1
Owner
sakam swetha
Active
Customer Type
Premium
Description
Created By
sakam swetha, 2/21/2023, 9:29 PM
Last Modified By
sakam swetha, 2/21/2023, 9:29 PM



DisqualifyTestLeads.apxt
CustomerTriggerTest.apxc
BillingInsert.apxc
Code Coverage: None
API Version: 57
Run Test
Go To
@IsTest
public class CustomerTriggerTest {
@IsTest
static void testCustomer(){
//Creating Customer
Scustomer__c cust1 = new Scustomer__c();
cust1.Name='test1';
cust1.Customer_Type__c = 'Premium';
insert cust1;
//Updating Customer
cust1.Active__c = True;
update cust1;
//After Updating, changing the billing information
if(cust1.Active__c == True){
Test.startTest();
Billing__c billing = new Billing__c();
billing.Status__c = 'Paid';
billing.Amount_Paid__c = 1000000;
Test.stopTest();
system.assertEquals('Paid', billing.Status__c);
system.assertEquals(1000000, billing.Amount_Paid__c);
}
Logs
Tests
Checkpoints
Query Editor
View State
Progress
Problems
Status
Test Run
Enqueued Time
Duration
Failures
Total
TestRun @ 2:23:58 pm
0
1
Overall Code Coverage
Class
Percent
Lines
BillingInsert
0%
0/14
BillingObject
0%
0/20
CustomerTrigger
100%
9/9
DiscountClass
0%
0/4
DisqualifyTestLeads
0%
0/8

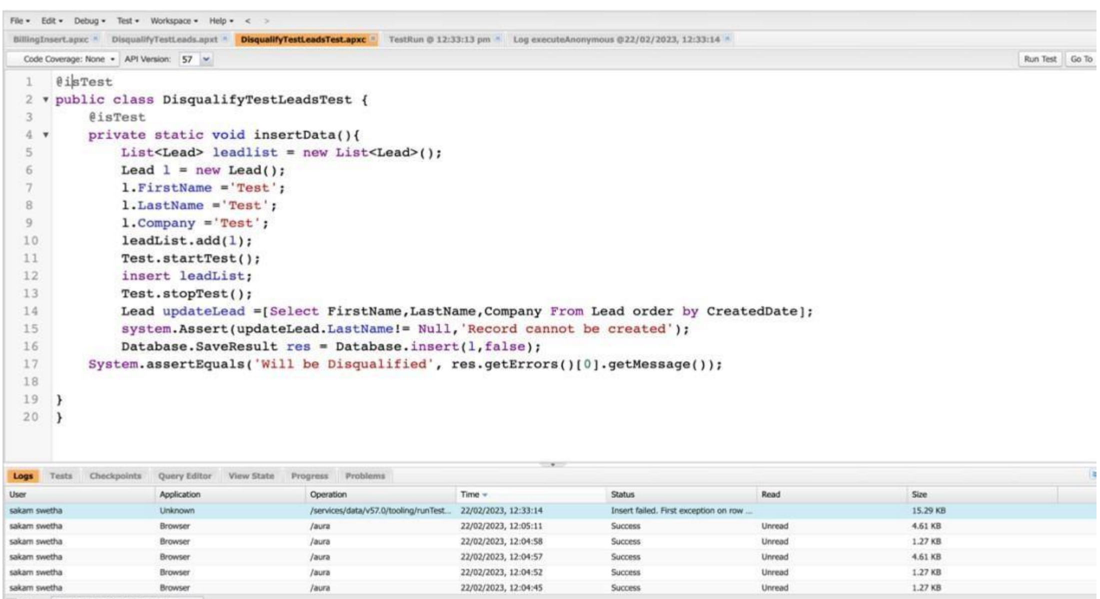
Exercise 14

Write an Apex Trigger, Name = DisqualifyTestLeads.



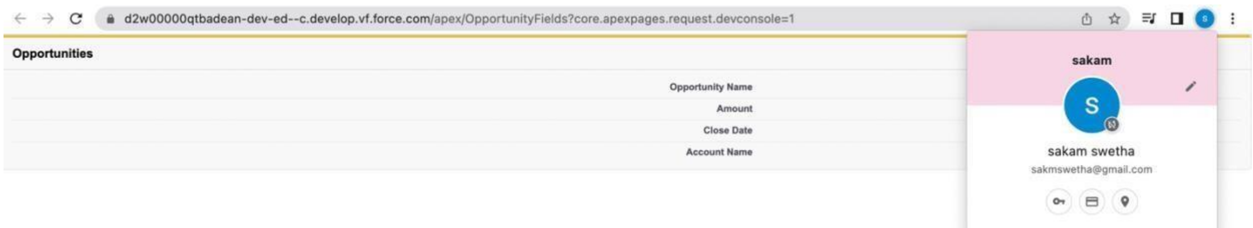
Exercise 15

Write a Test Class for DisqualifyTestLeads.



Exercise 16

Create a Visualforce page which displays Opportunity fields as output fields.



Exercise 17

Create a Visualforce page which shows a list of Accounts linked to their record pages

Exercise 18

Create a Visualforce page that uses a custom controller to display a list of cases with the status of 'New'. The page must be named NewCaseList.

References

1. Manage sales - Salesforce IN
2. Salesforce - ADX201 Administrative Essentials for New Admins in Lightning Experience (SFADX201) (qa.com)
3. Understand the Salesforce Architecture Unit | Salesforce Trailhead