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SKILLS ACADEMY

Capstone Project Report
On
“**Travel Approval App**”

Submitted by:

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Date: 27/02/2023

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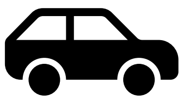
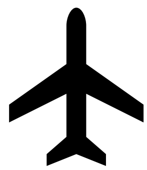
Abstract

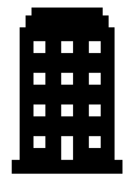
This report outlines the development of a travel approval app for Salesforce that streamlines the process of requesting and approving business travel requests. The app allows employees to easily submit travel requests through Salesforce, which are then automatically routed to their manager for approval. Managers can review and approve requests in real-time, as well as track the travel expenses and budgets associated with each trip. The app is designed to improve the efficiency of the travel approval process, reduce errors and delays, and provide greater visibility and control over travel expenses. Overall, the travel approval app for Salesforce is a valuable tool for any organization looking to streamline their travel request process and better manage their travel expenses.

Introduction

Travel is an essential component of business operations, but managing the process of requesting and approving travel can be complex and time-consuming. This is especially true for large organizations with numerous employees traveling for work. To address this challenge, a travel approval app for Salesforce has been developed to streamline the travel approval process and improve the efficiency of managing travel requests and expenses.







The travel approval app for Salesforce is a web-based application that integrates with the Salesforce platform to provide a seamless and user-friendly experience for employees and managers. The app automates the travel request process, allowing employees to easily submit requests and managers to quickly approve them. Additionally, the app provides visibility and control over travel expenses and budgets, enabling managers to make informed decisions and ensure compliance with company policies.

This report provides an overview of the development of the travel approval app for Salesforce, including its features, benefits, and implementation process. The report also discusses the potential impact of the app on travel management within organizations and explores future enhancements and developments for the app.

Overall, the travel approval app for Salesforce is a valuable tool for any organization looking to streamline their travel request process and better manage their travel expenses.

Flow of the Project

The travel approval app for Salesforce follows a streamlined process that simplifies the travel request and approval process for employees and managers. The flow of the app can be broken down into several steps, which are outlined below:

1. Travel Request Submission: Employees initiate the travel request process by submitting a request through the travel approval app in Salesforce. The request includes details such as the purpose of the trip, travel dates, destinations, and estimated expenses.

2. Manager Review and Approval: The travel request is automatically routed to the employee's manager for review and approval. The manager can review the details of the trip, including estimated expenses, and either approve or reject the request.

3. Budget and Expense Management: Once a request is approved, the app tracks the expenses associated with the trip, including flights, accommodations, and other travel-related expenses. The app also provides visibility into the available travel budget for the employee or team, ensuring that the trip stays within the approved budget.

4. Travel Booking and Itinerary Management: Once a travel request is approved, employees can book their travel and manage their itinerary directly within the travel approval app. The app provides a central location for all travel-related information, making it easy for employees to stay organized and informed about their trip.

5. Travel Expense Reimbursement: After the trip is completed, employees can submit their travel expenses through the travel approval app. The app automatically calculates the total expenses and routes the expense report to the appropriate department for reimbursement.

Overall, the travel approval app for Salesforce streamlines the travel request and approval process, simplifies expense management, and provides visibility and control over travel budgets. By automating these processes, organizations can reduce errors and delays, improve efficiency, and ensure compliance with company policies.

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

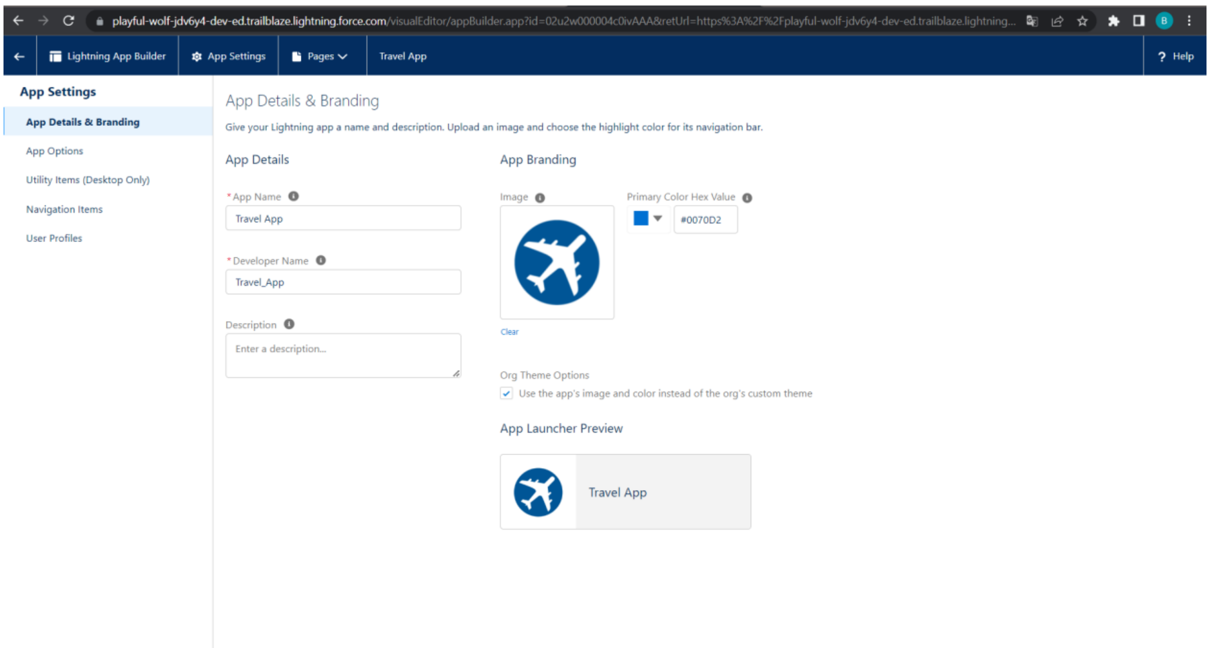
Minimum requirements are:

- 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

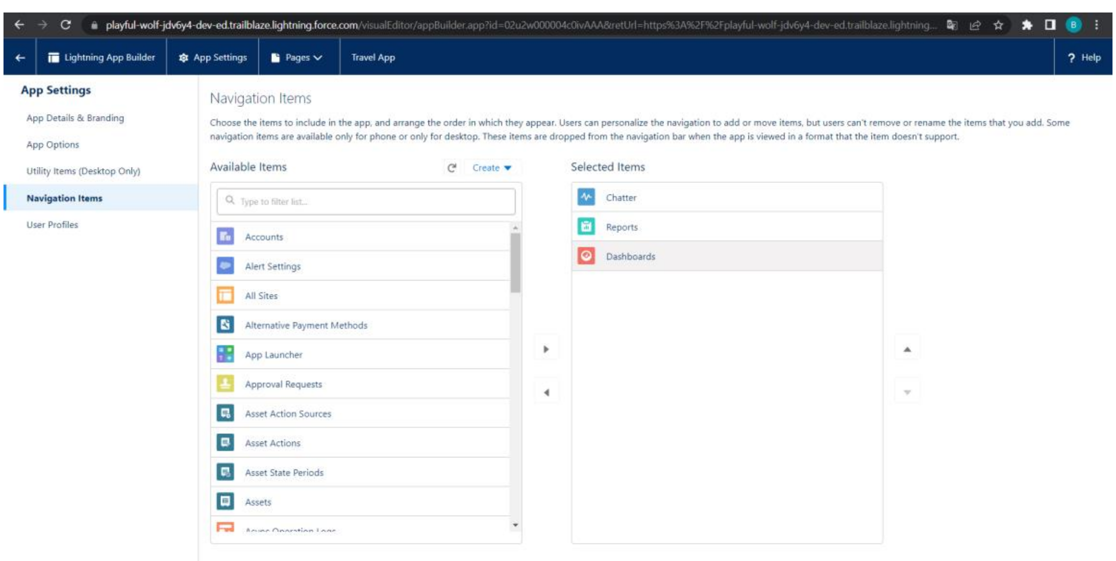
Module 1
Exercise 1

Step 1

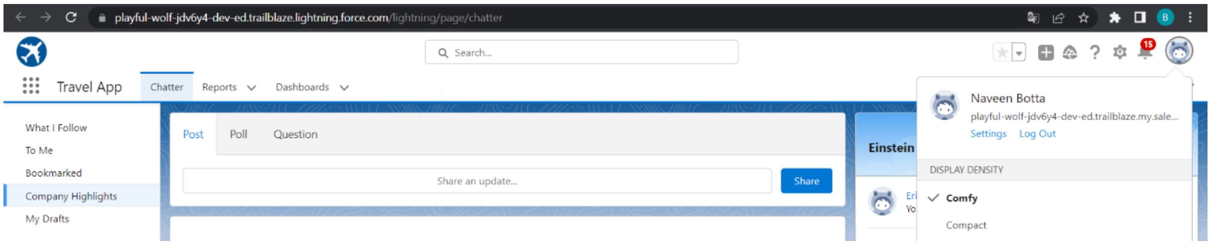
Creating Lightning App: Travel App.



Select and add Navigation items to app

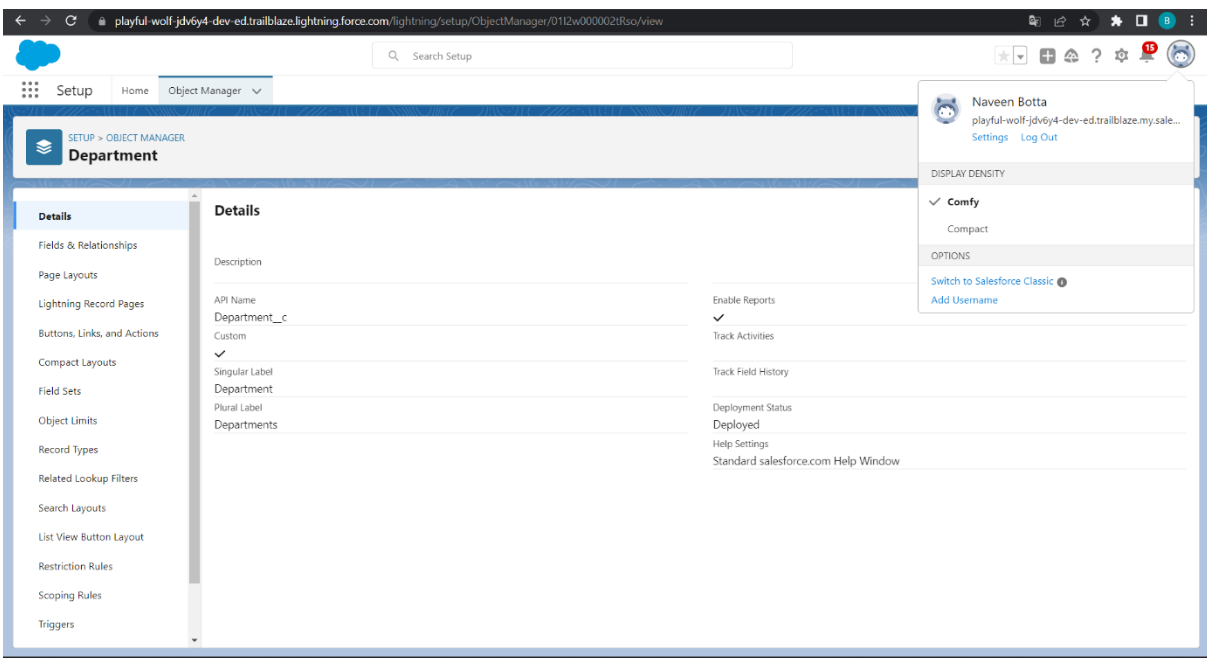


Giving user profile as System Administrator



Step 2

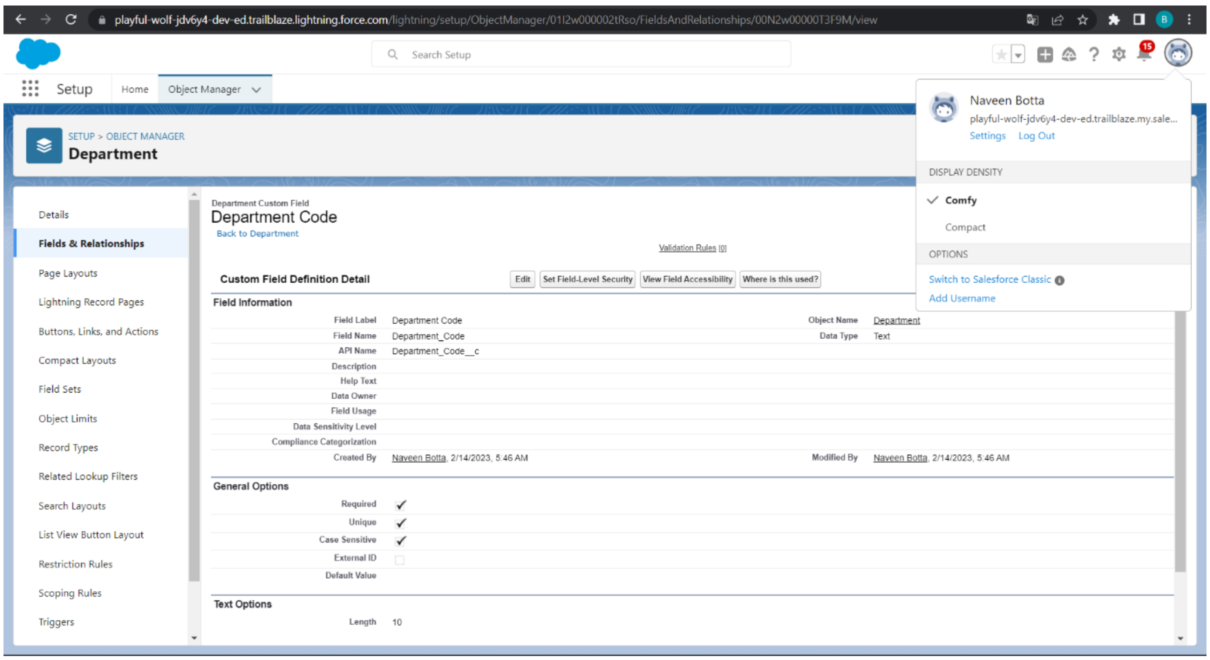
Custom object Department



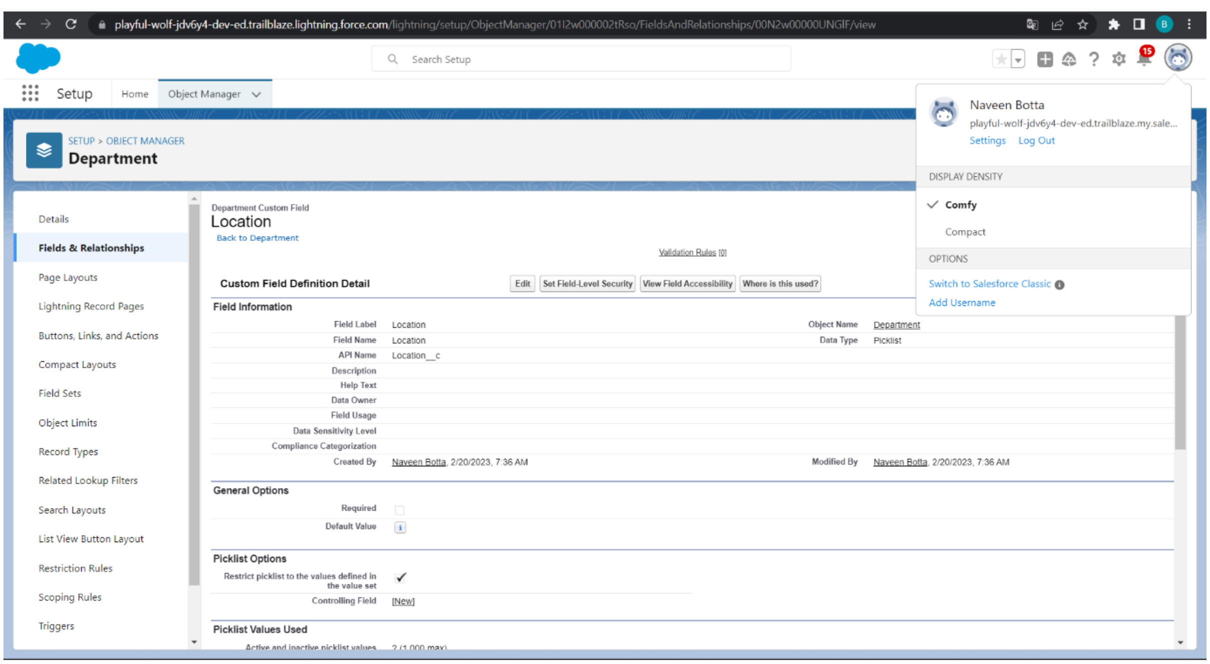
Step 3

Creating custom fields in Department object

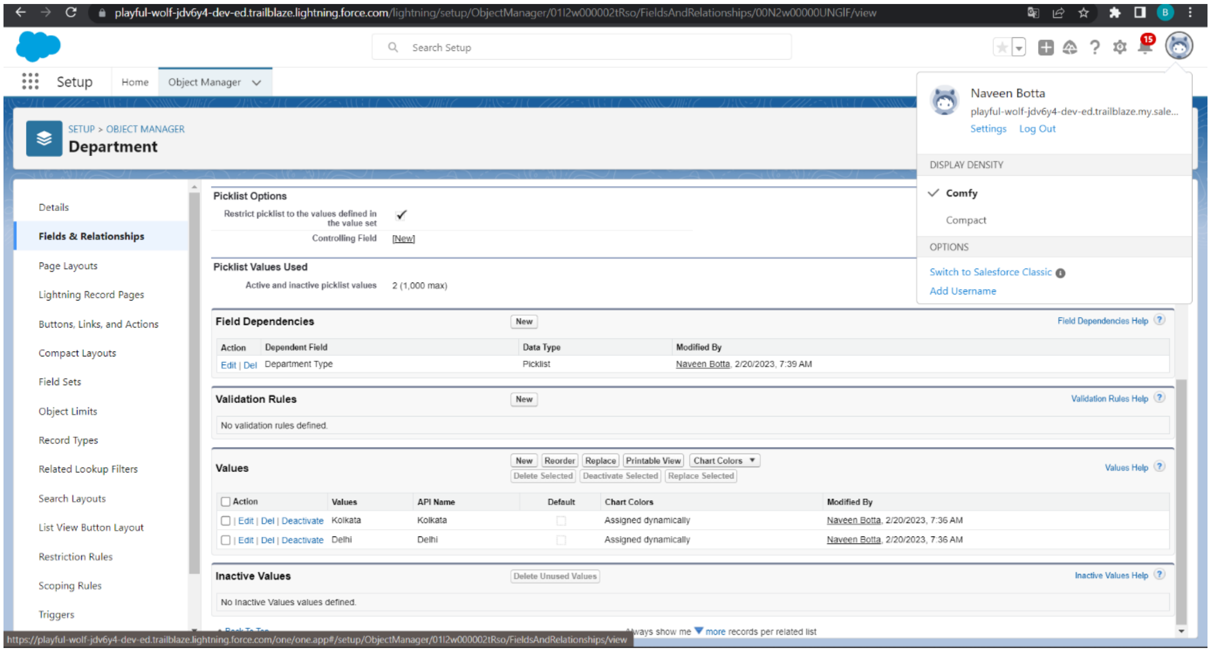
Department Code Field



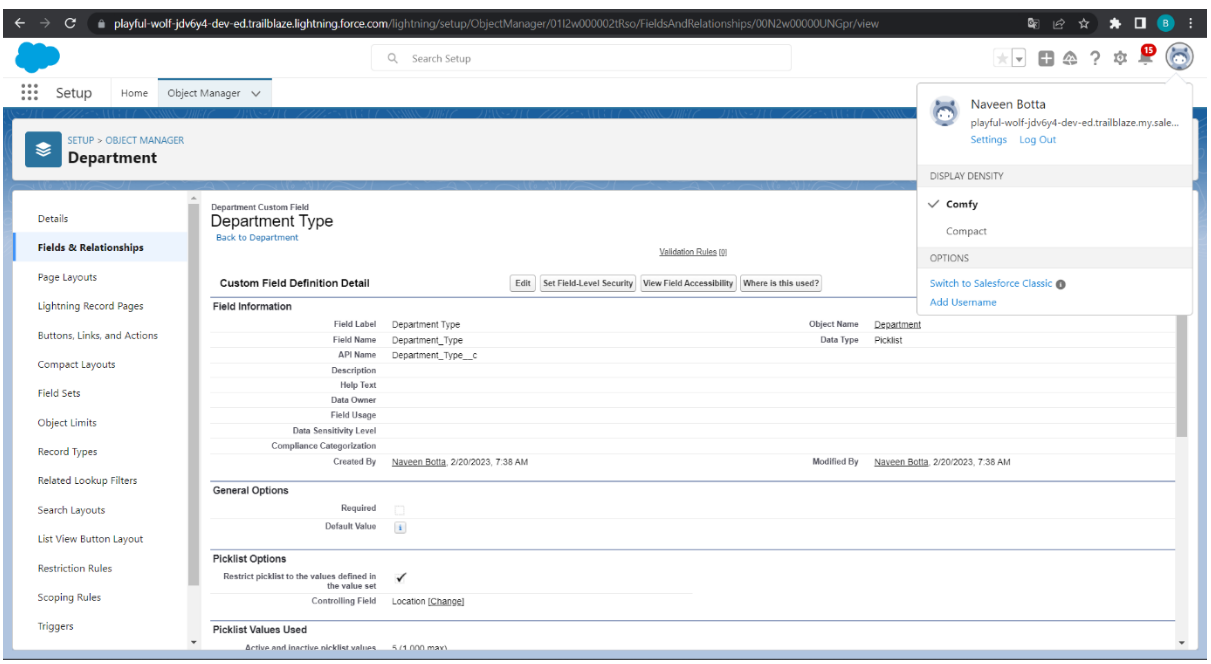
Location Field



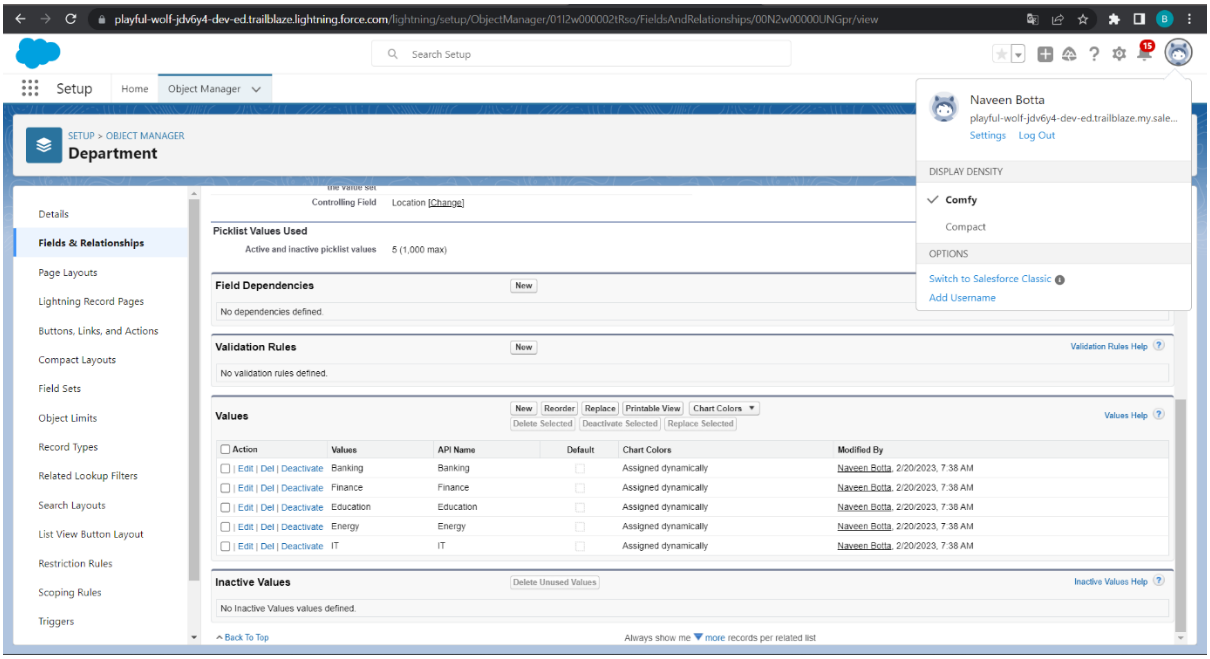
Location Picklist Values



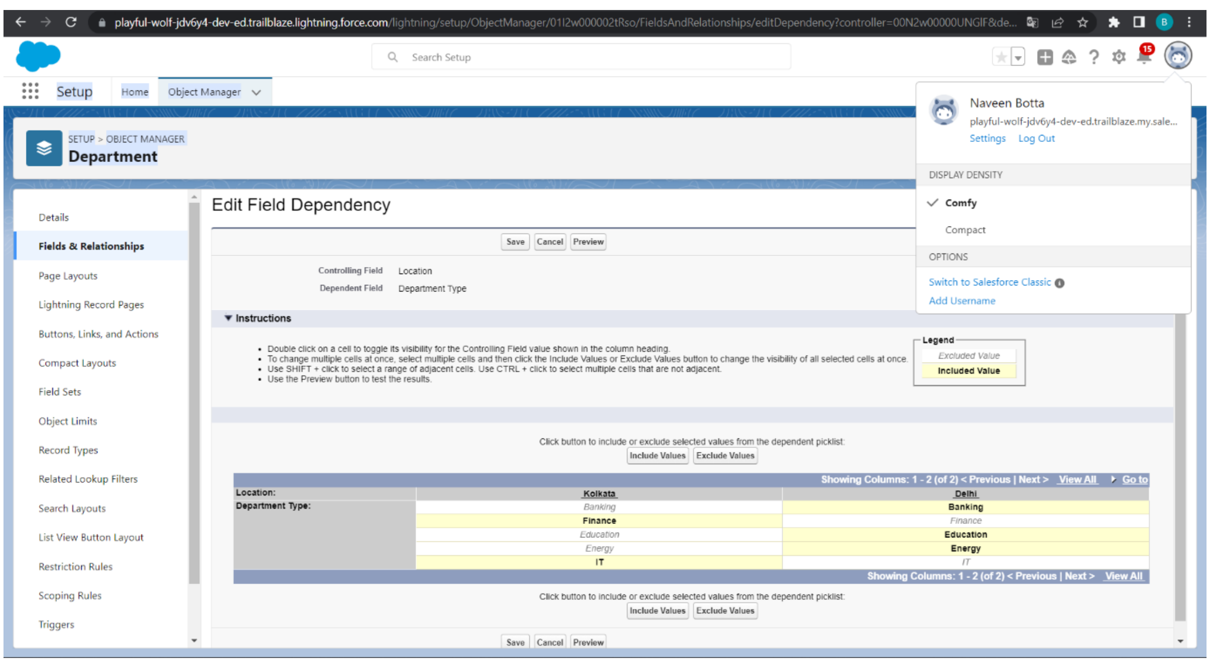
Department Type Field



Department Type Picklist

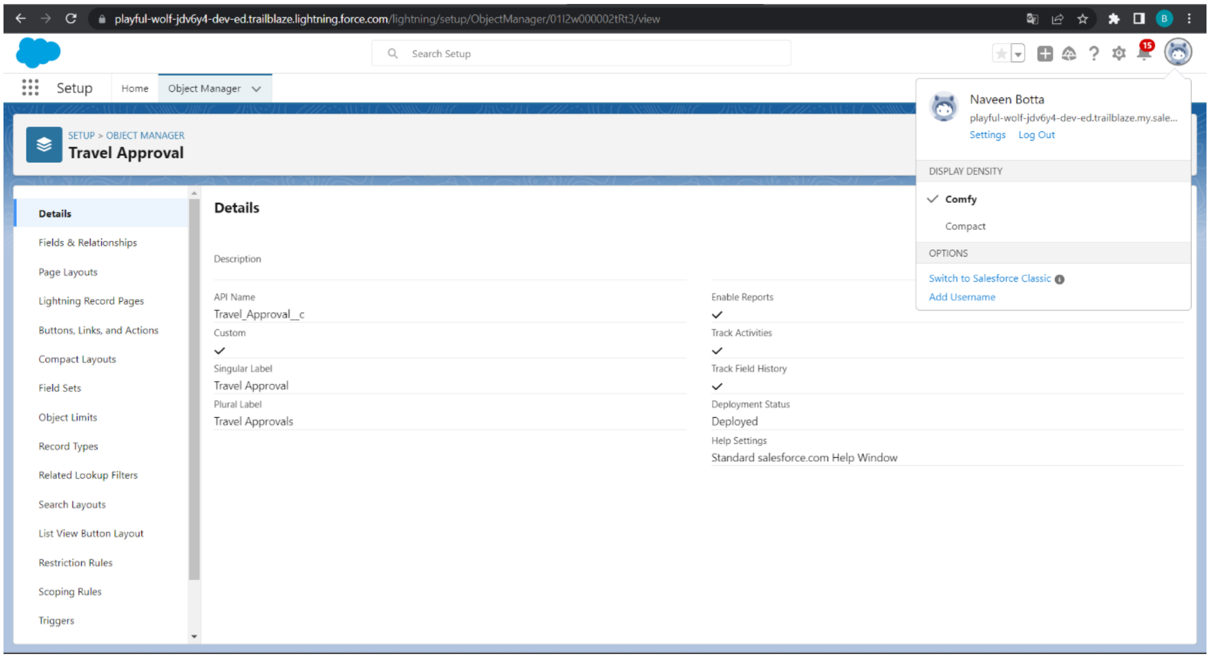


Field Dependency



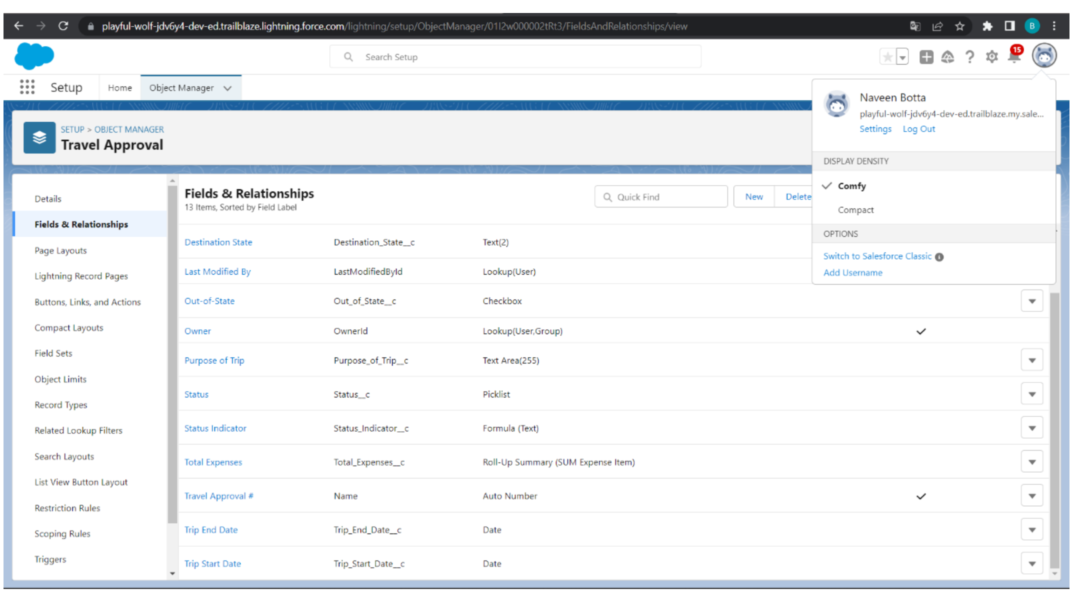
Step 4

Creating Custom Object Travel Approval

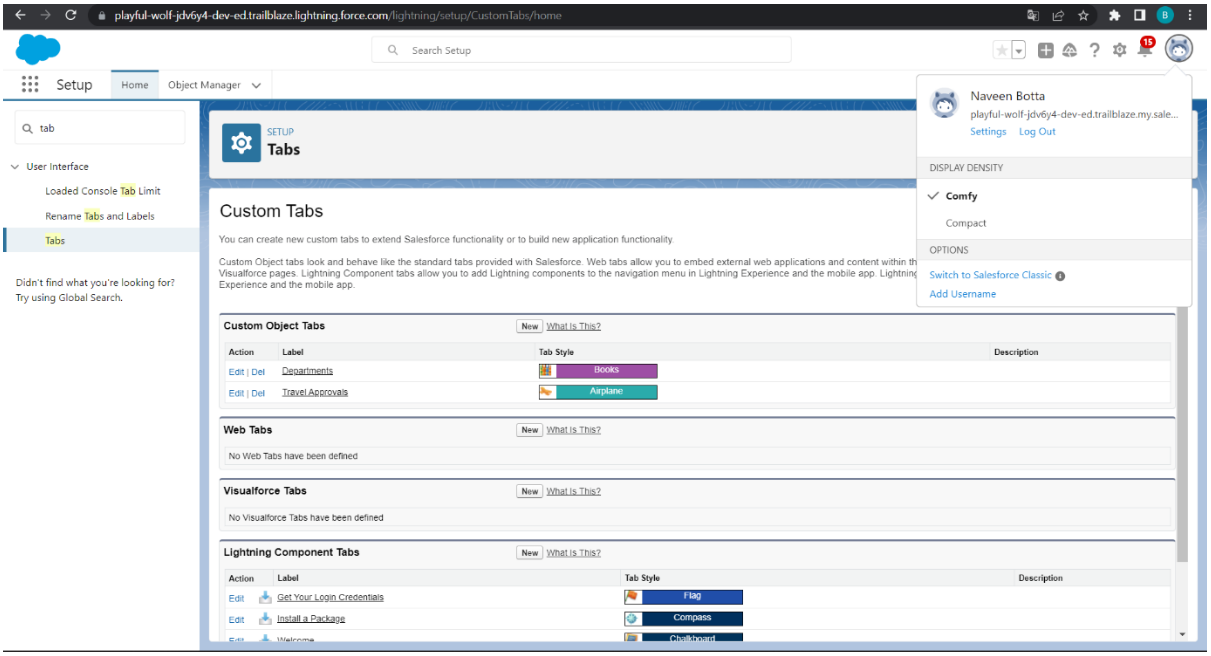


Custom Fields in Travel Approval Object

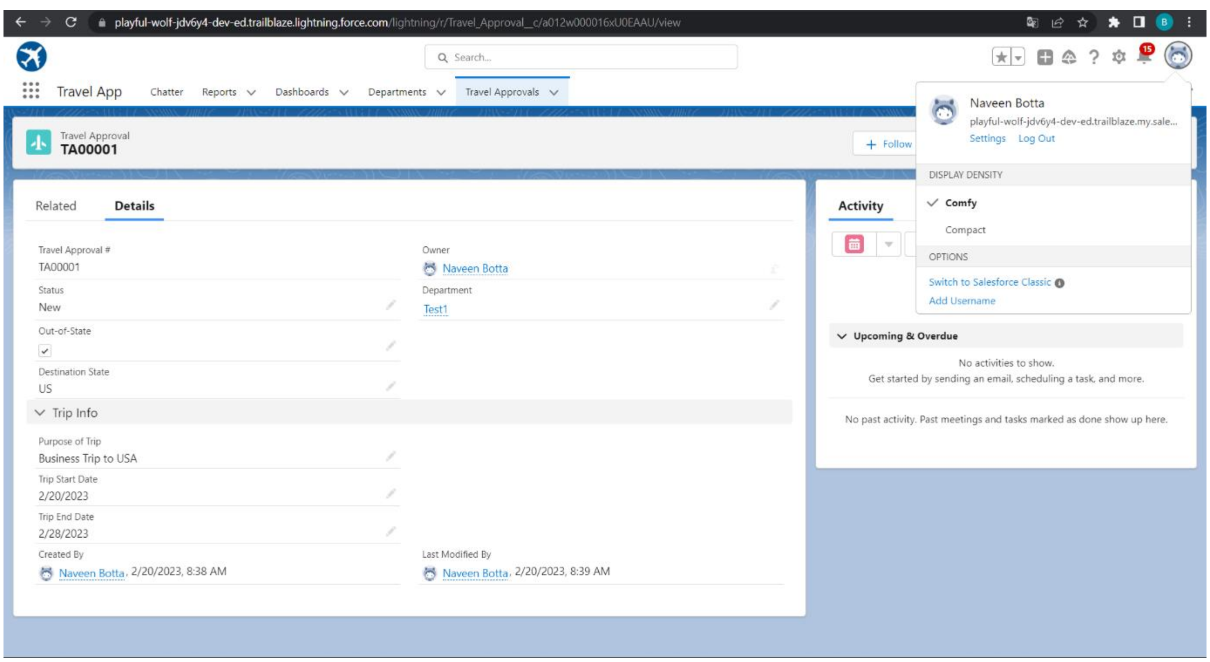
Contains purpose of trip, status, trip start date, trip end date, out of state, destination state, department(lookup)



Custom tabs for custom objects

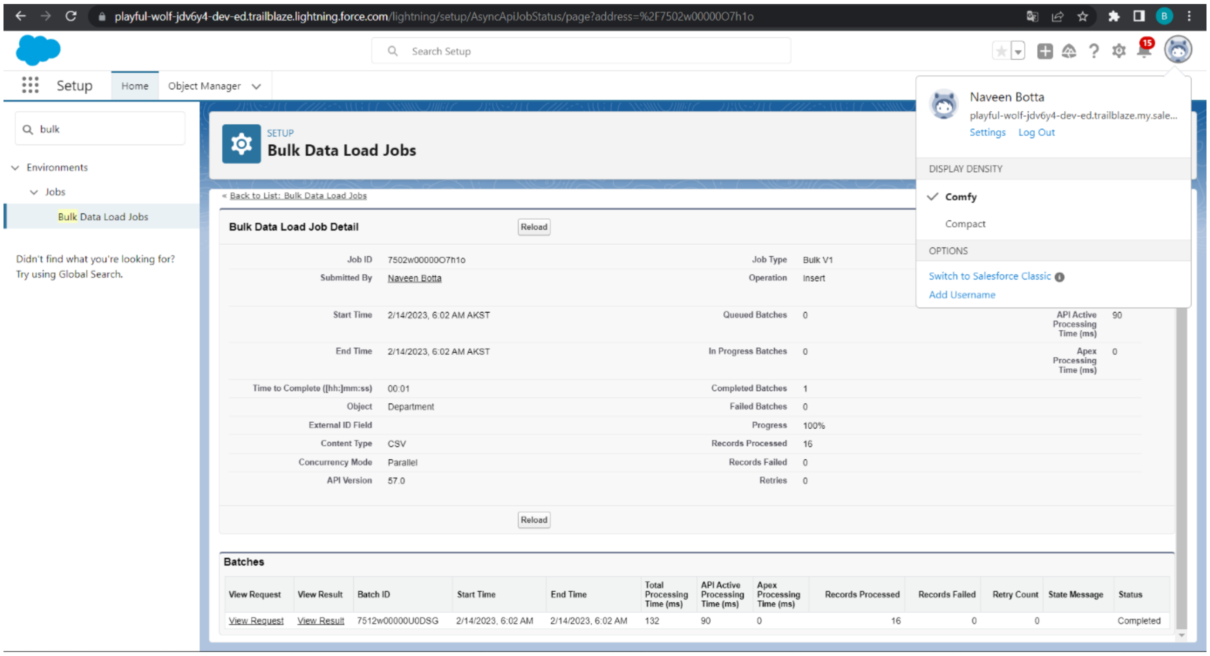


After creating travel approval object with fields, it looks as shown below.

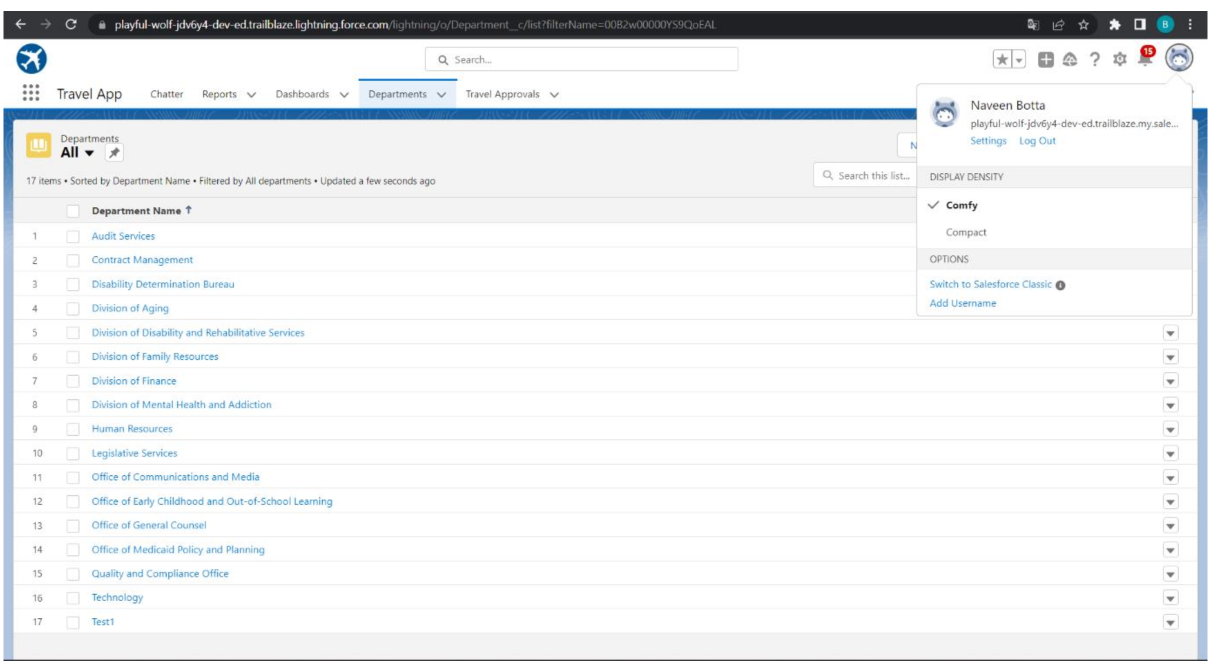


Step 5

Importing Department records using data import wizard
And imported record data status can view in Bulk Data Load Jobs as shown



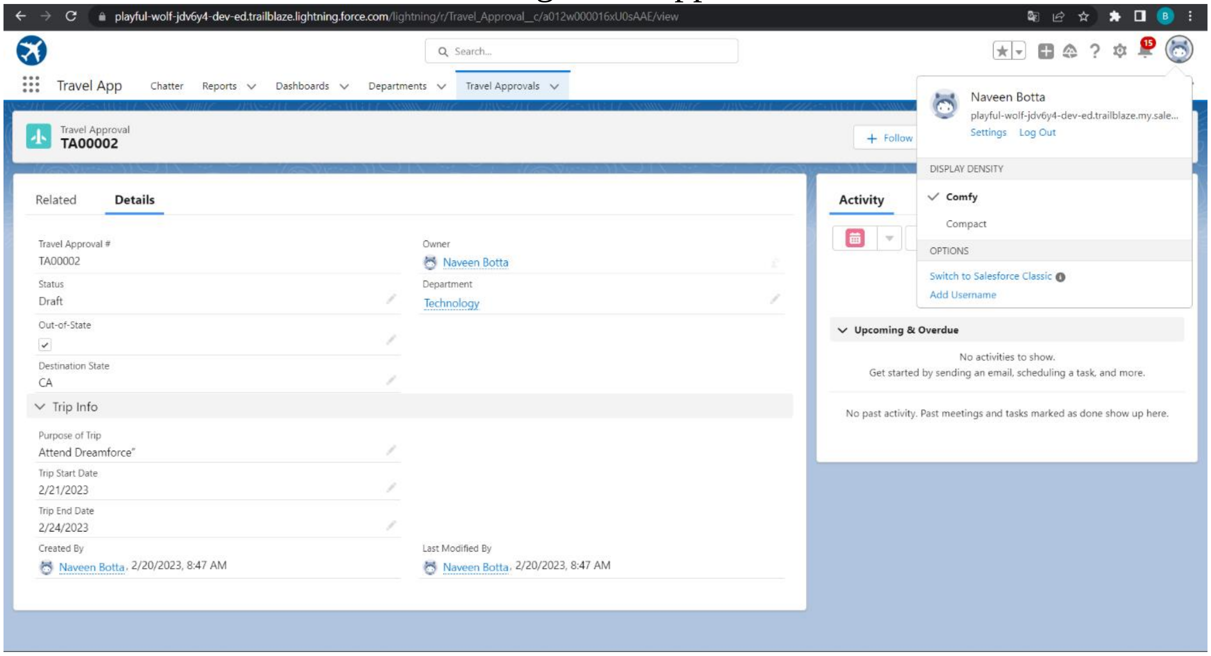
Imported records



Exercise 2

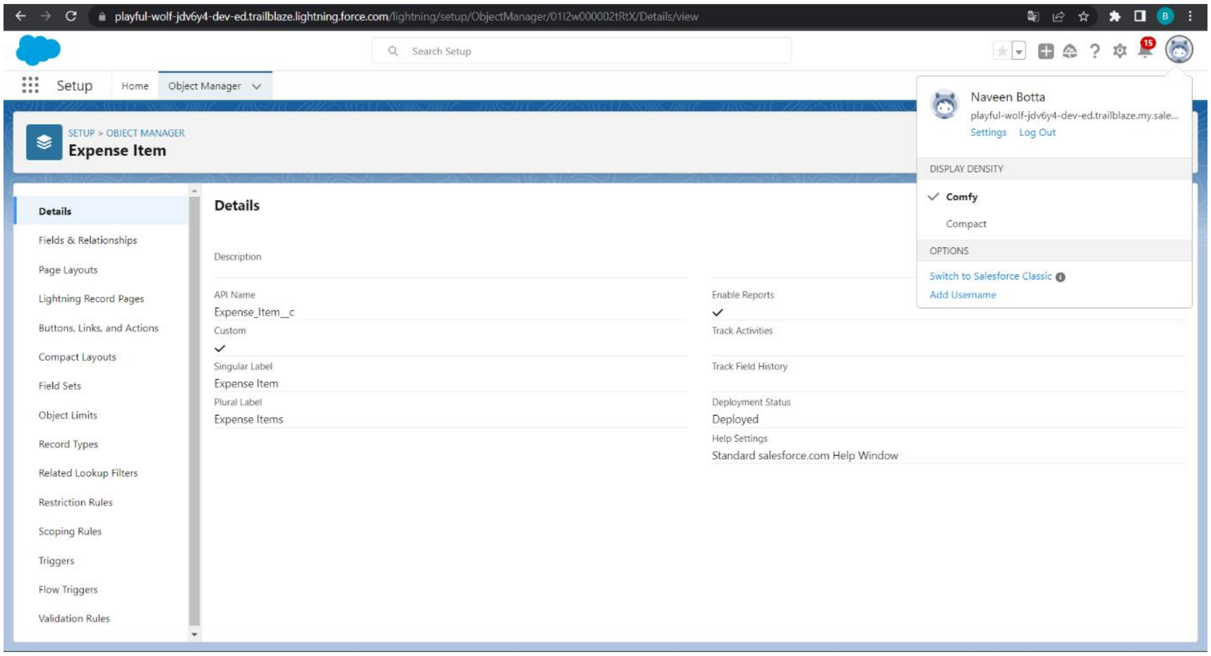
Step 1

Creating travel approval record



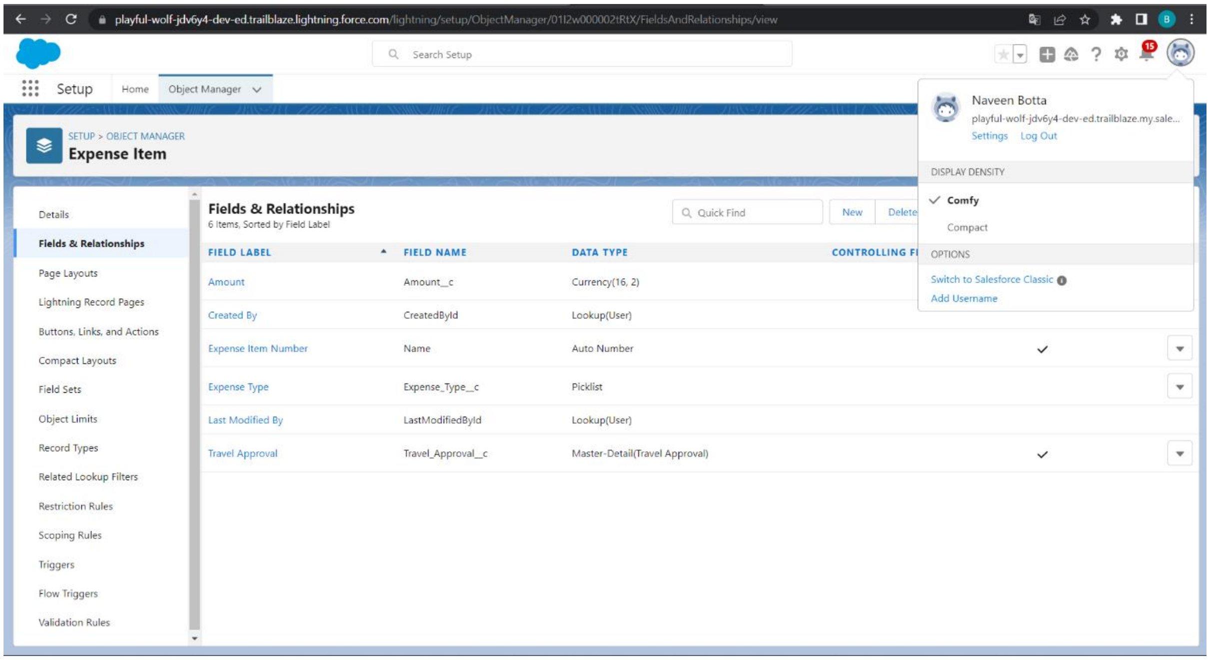
Step 2

Creating Expense Item custom object



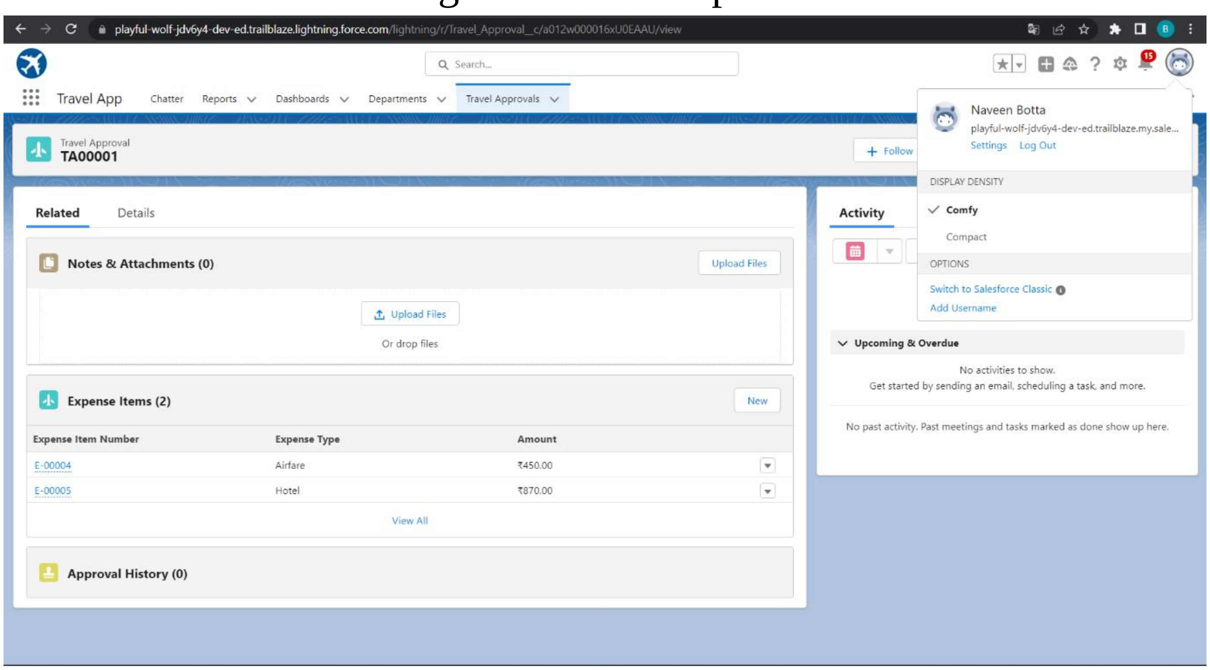
Step 3

Custom fields in Expense Item object



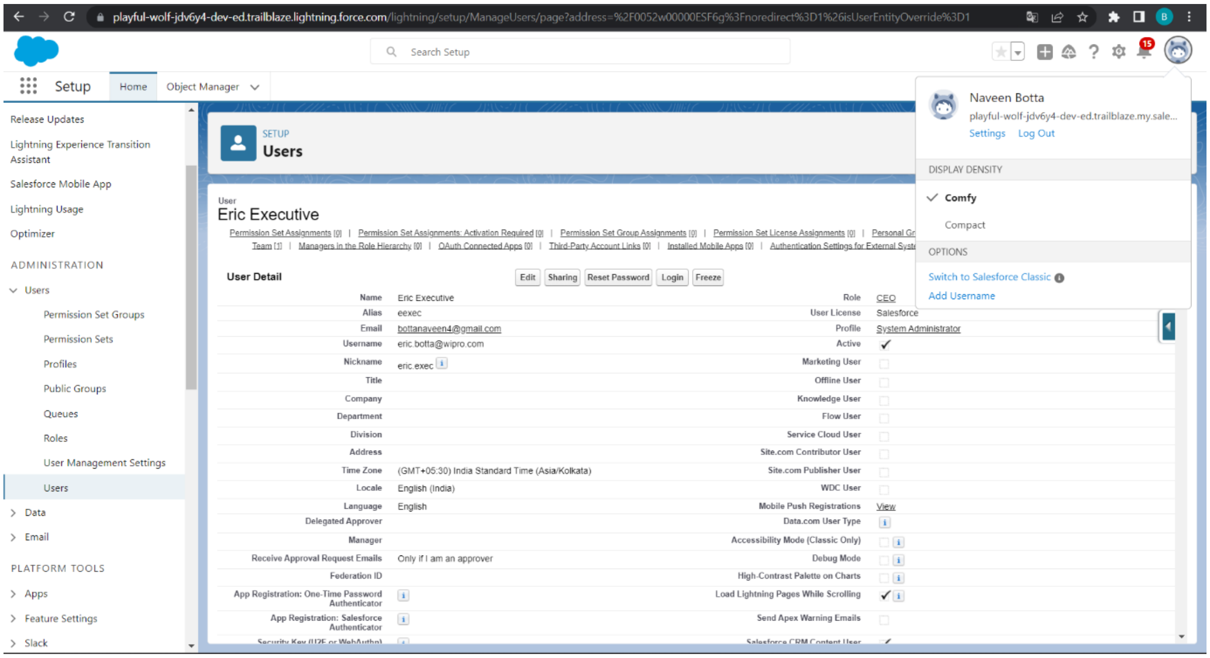
Step 4

Creating Records in Expense Item



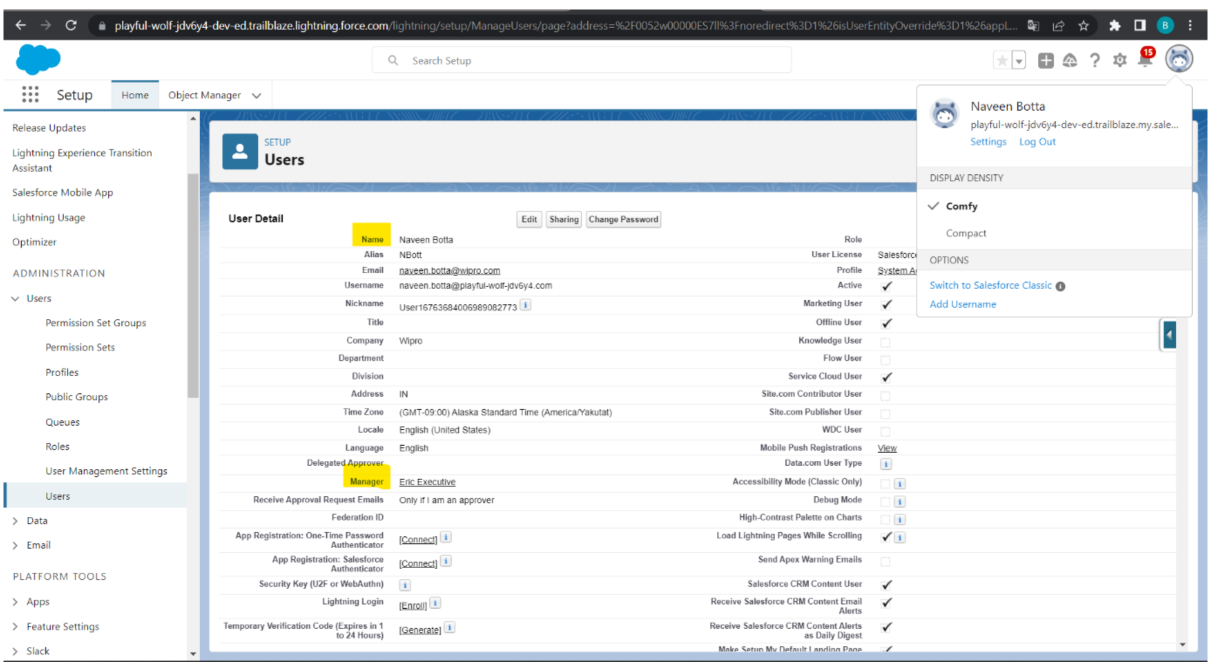
Step 5

Creating User with system admin license



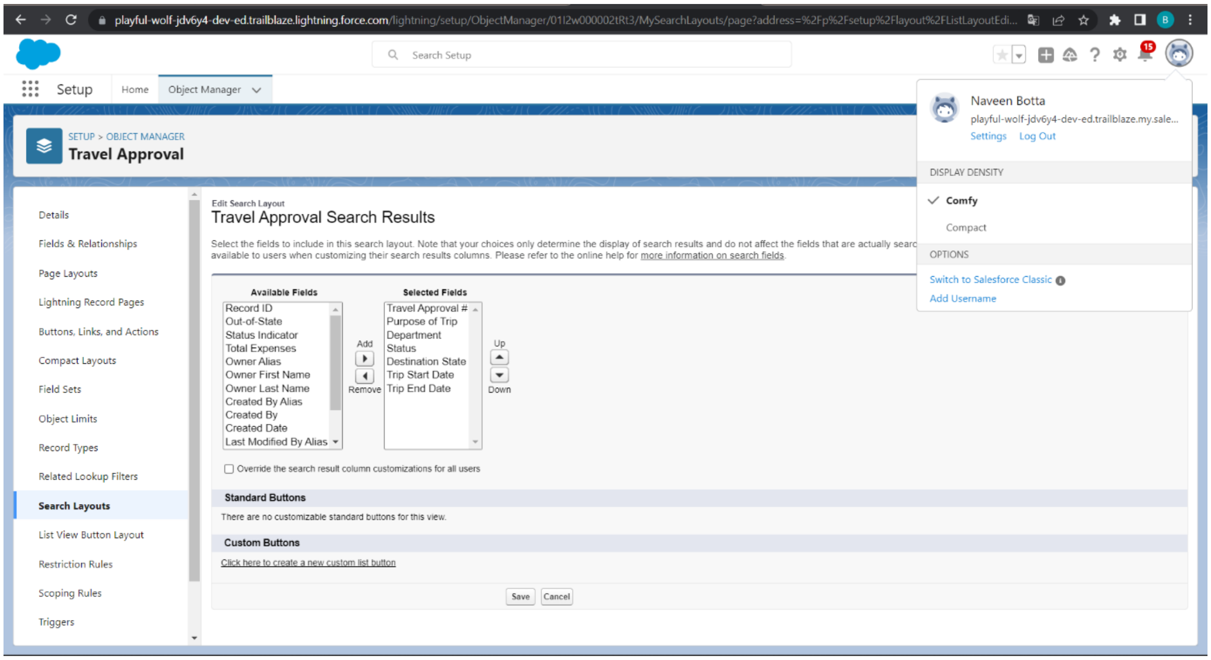
Step 6

Add user eric as manager own account user



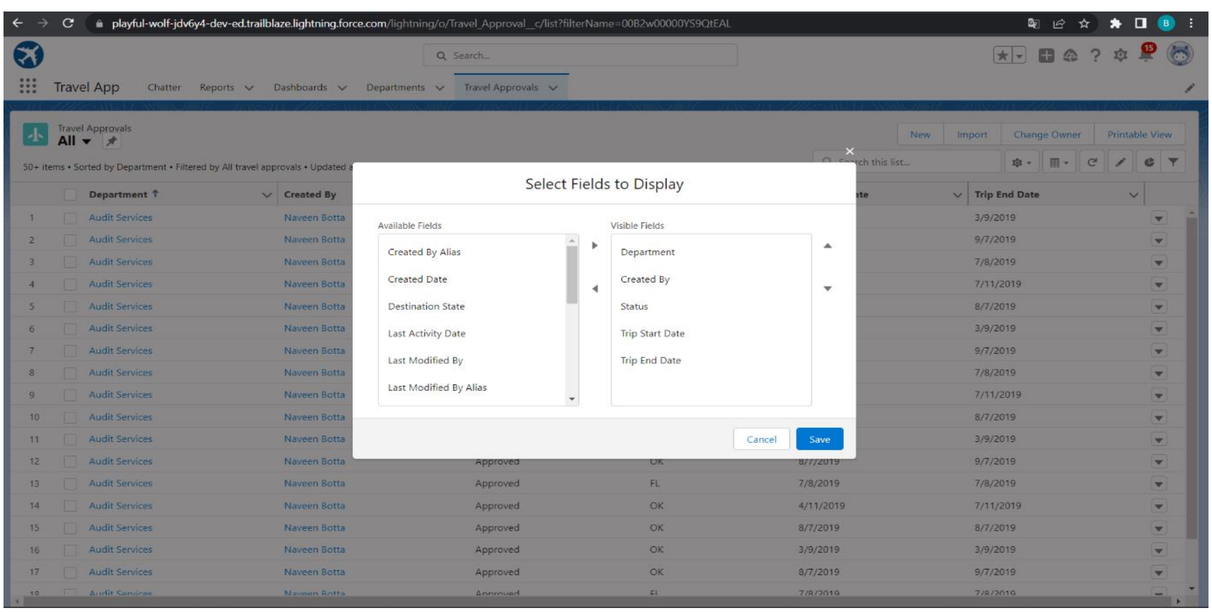
Step 7

Customize the Travel Approval Default search layout



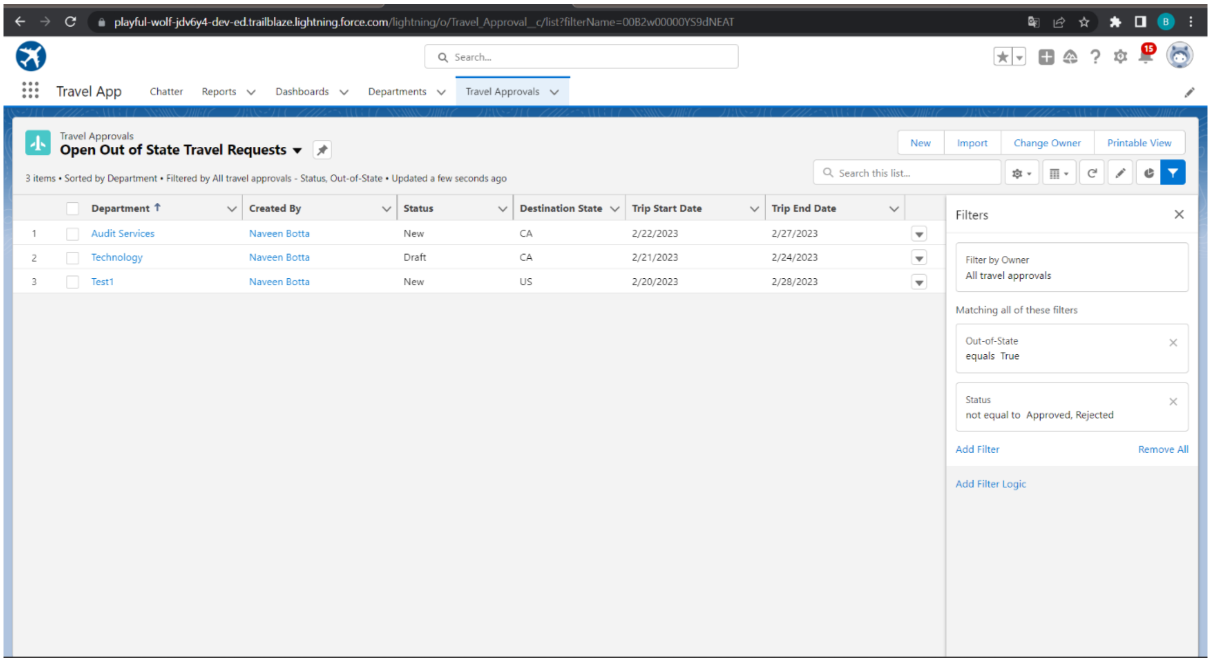
Step 8

Select fields to display in the Travel Approval "All" List view



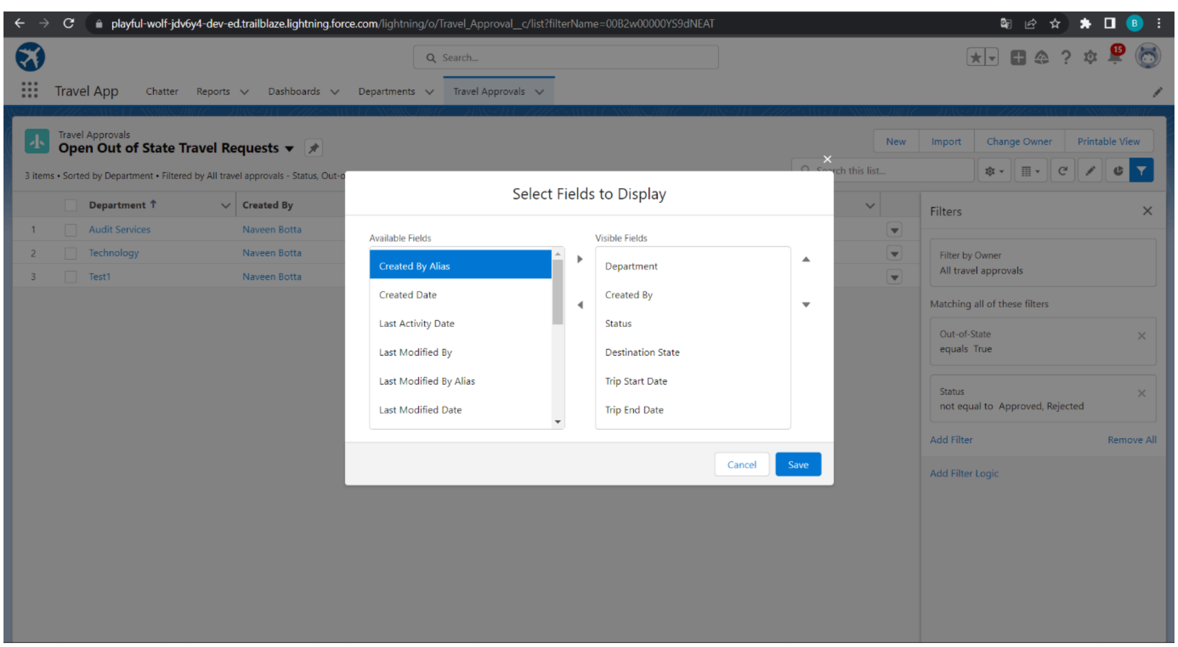
Step 9

Create Travel approval custom List View "Open Out of State Travel Requests" All users should be able to see this list view.

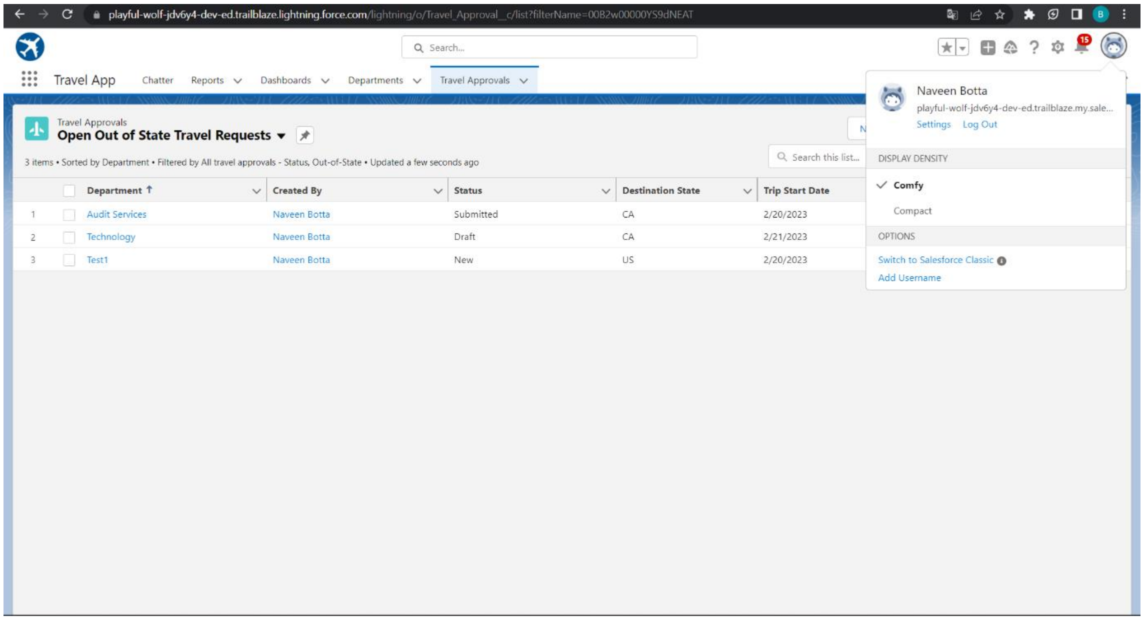


Step 10

Select fields to display in the Travel Approval "Open Out of State Travel Requests" List view

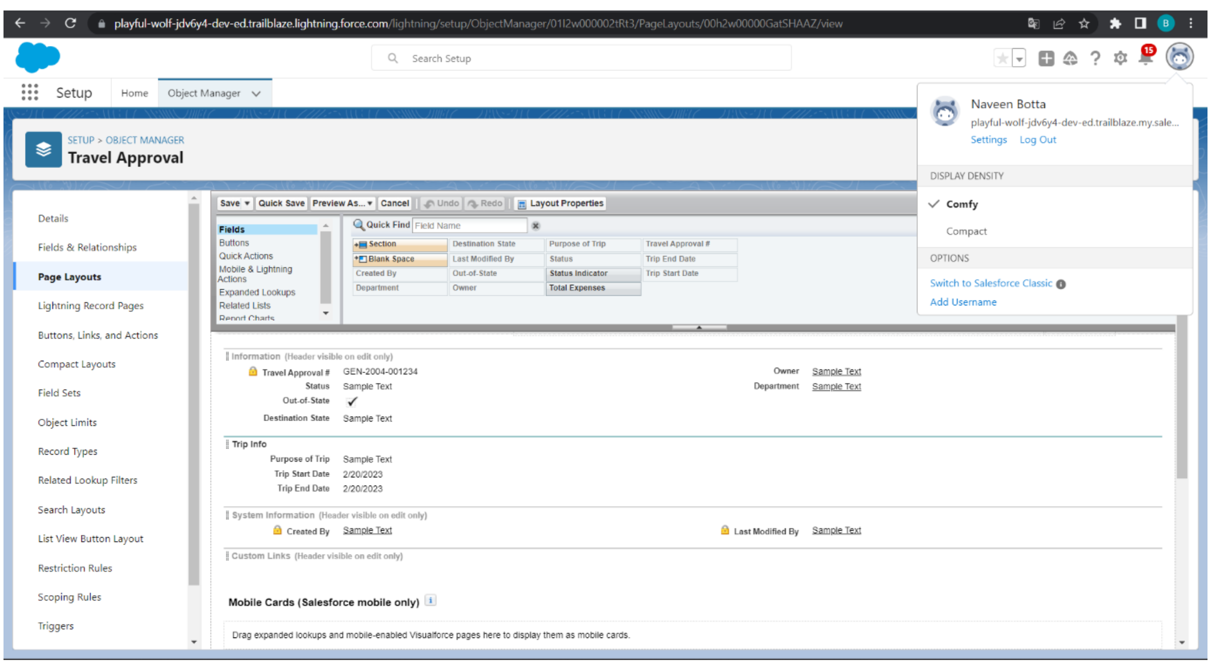


List View



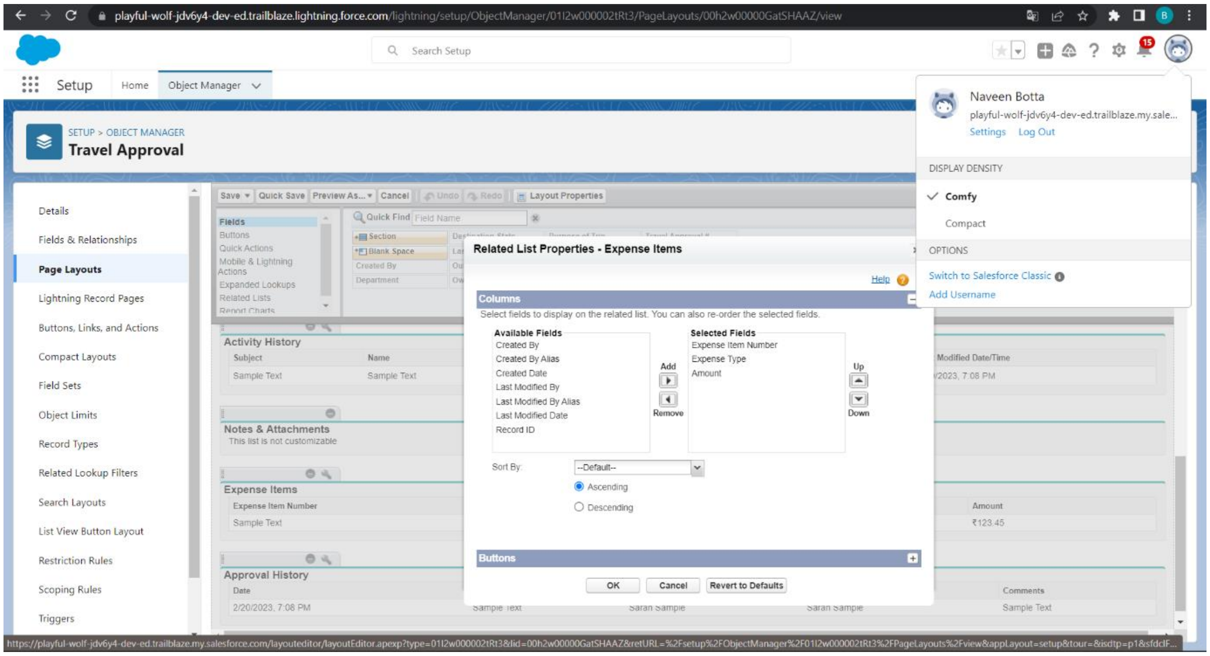
Step 11

Customizing page layout

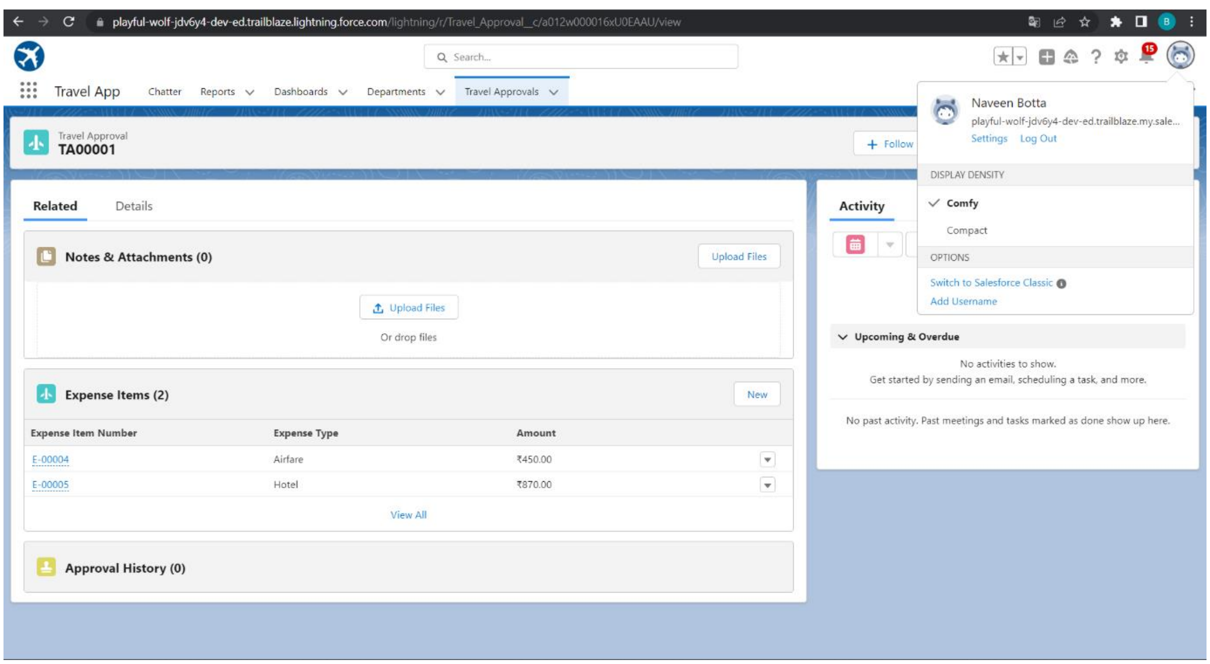


Step 12

Customize the Expense Item Related List under the Travel Approval

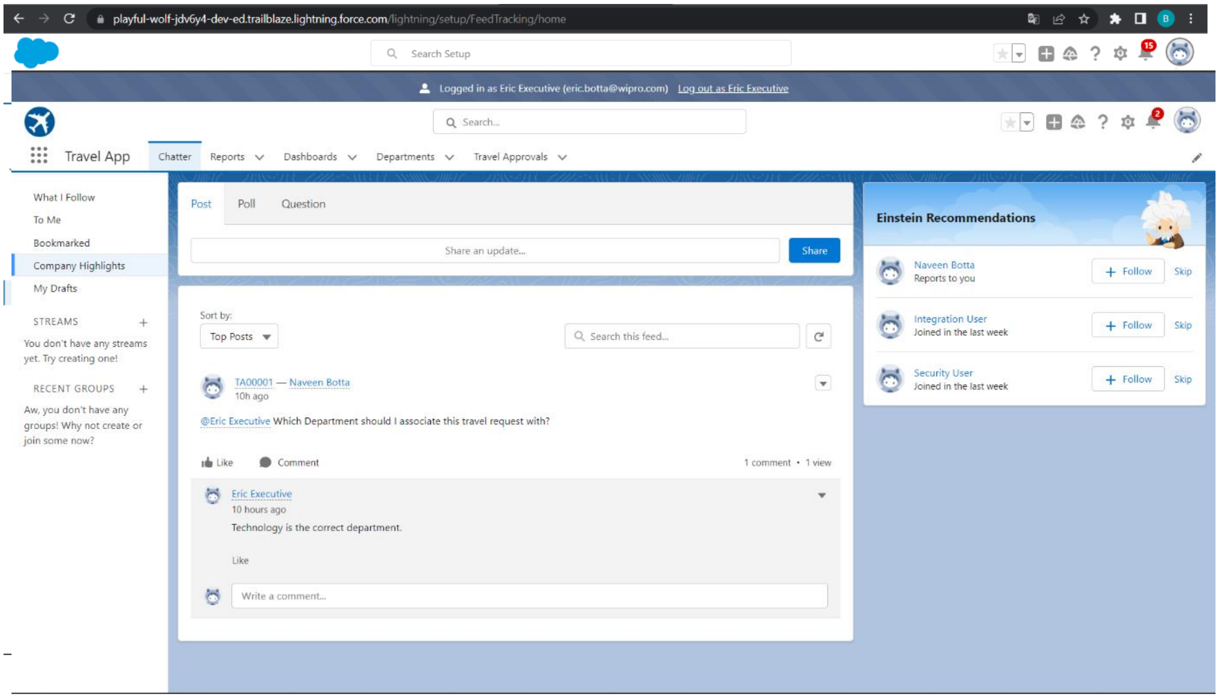


It looks as shown below

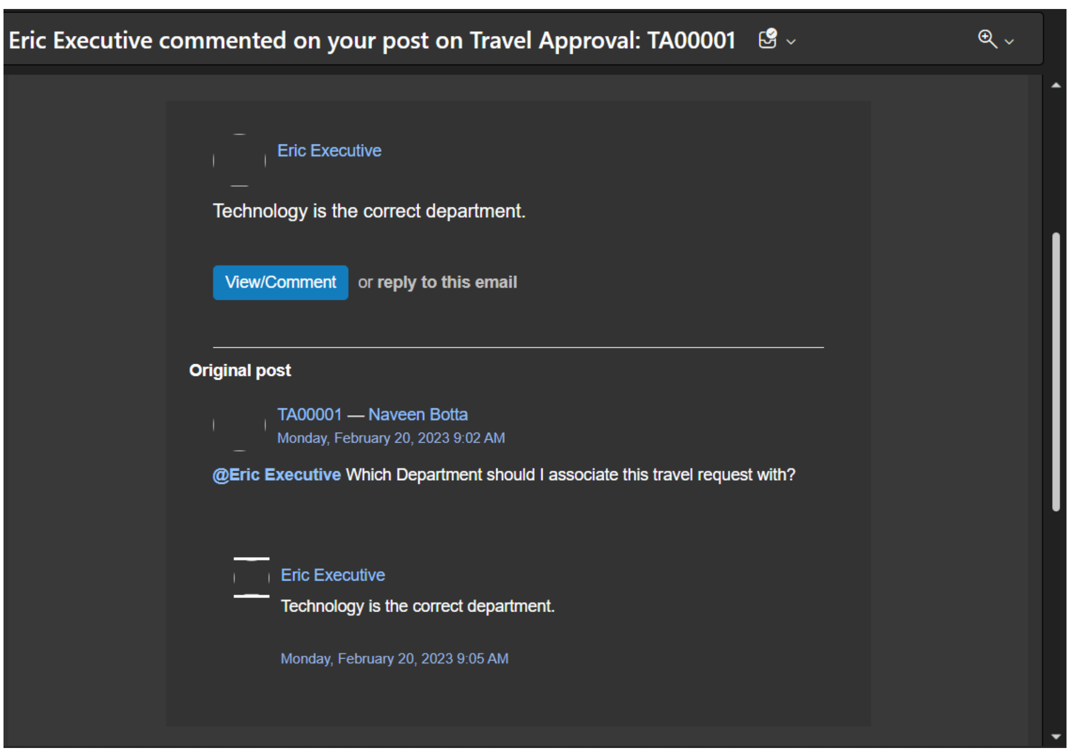


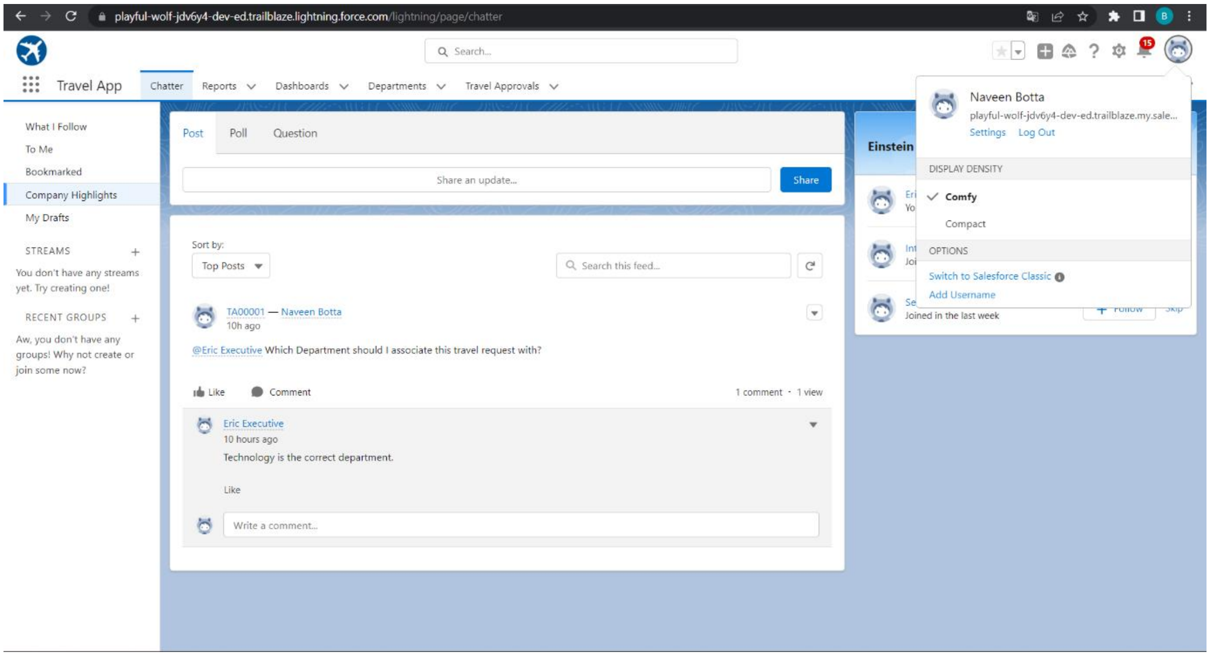
Step 13

Enable feed tracking for travel approval object



Test Collaboration Mail received for response





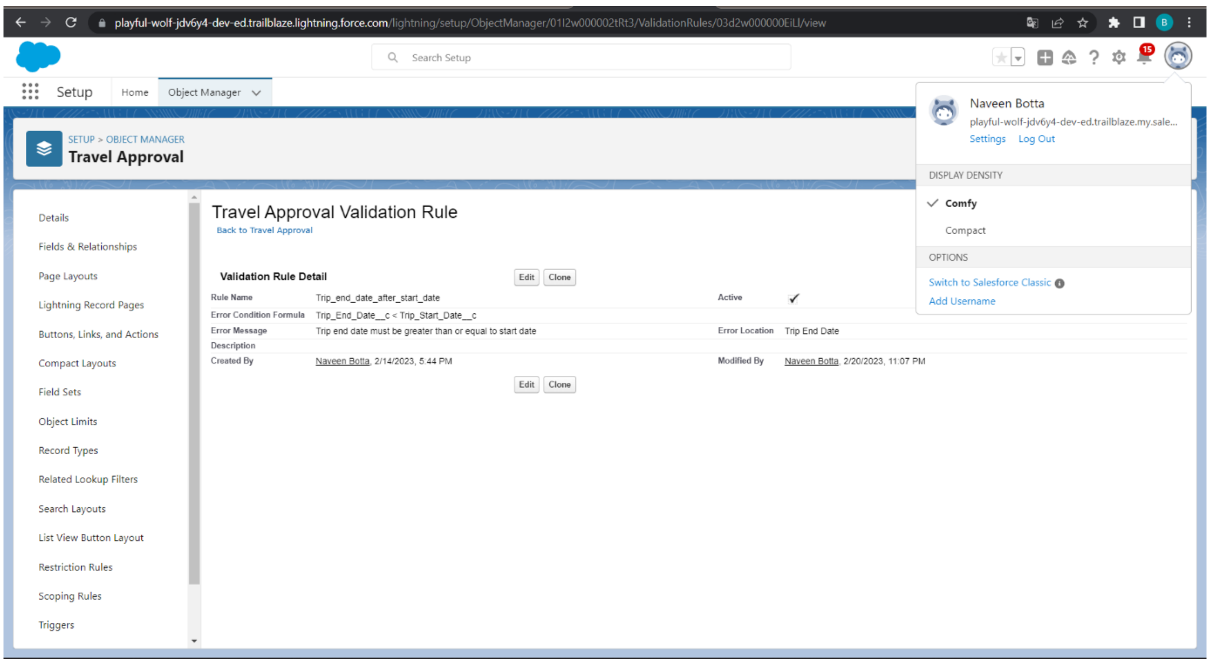
playful-wolf-jdv6y4-dev-ed.trailblaze.lightning.force.com/lightning/page/chatter
Search...
Travel App
Chatter
Reports
Dashboards
Departments
Travel Approvals
What I Follow
To Me
Bookmarked
Company Highlights
My Drafts
STREAMS
You don't have any streams yet. Try creating one!
RECENT GROUPS
Aw, you don't have any groups! Why not create or join some now?
Post
Poll
Question
Share an update...
Share
Sort by:
Top Posts
Search this feed...
TA00001 — Naveen Botta
10h ago
@Eric Executive Which Department should I associate this travel request with?
Like
Comment
1 comment • 1 view
Eric Executive
10 hours ago
Technology is the correct department.
Like
Write a comment...
Einstein
Joined in the last week
Naveen Botta
playful-wolf-jdv6y4-dev-ed.trailblaze.my.sale...
Settings
Log Out
DISPLAY DENSITY
Comfy
Compact
OPTIONS
Switch to Salesforce Classic
Add Username

Module 2

Exercise 1

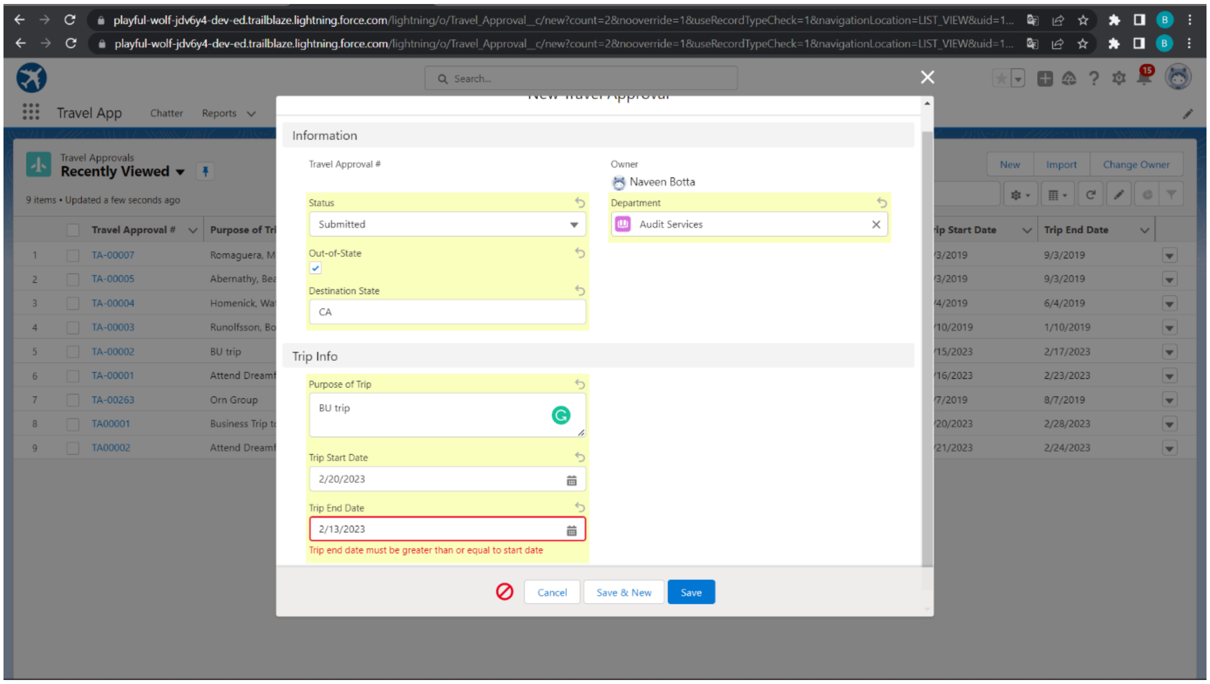
Step 1

Validation Rule that trip end date always >= start date



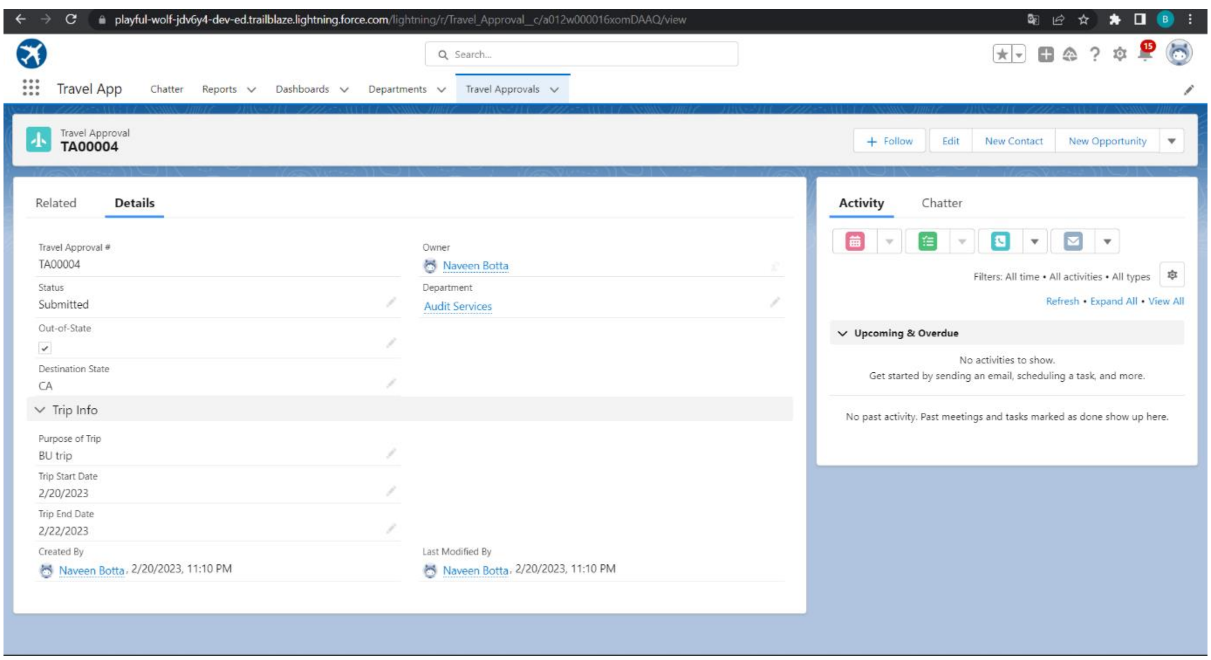
Working of validation rule

In end date if we give date less than start date it show error



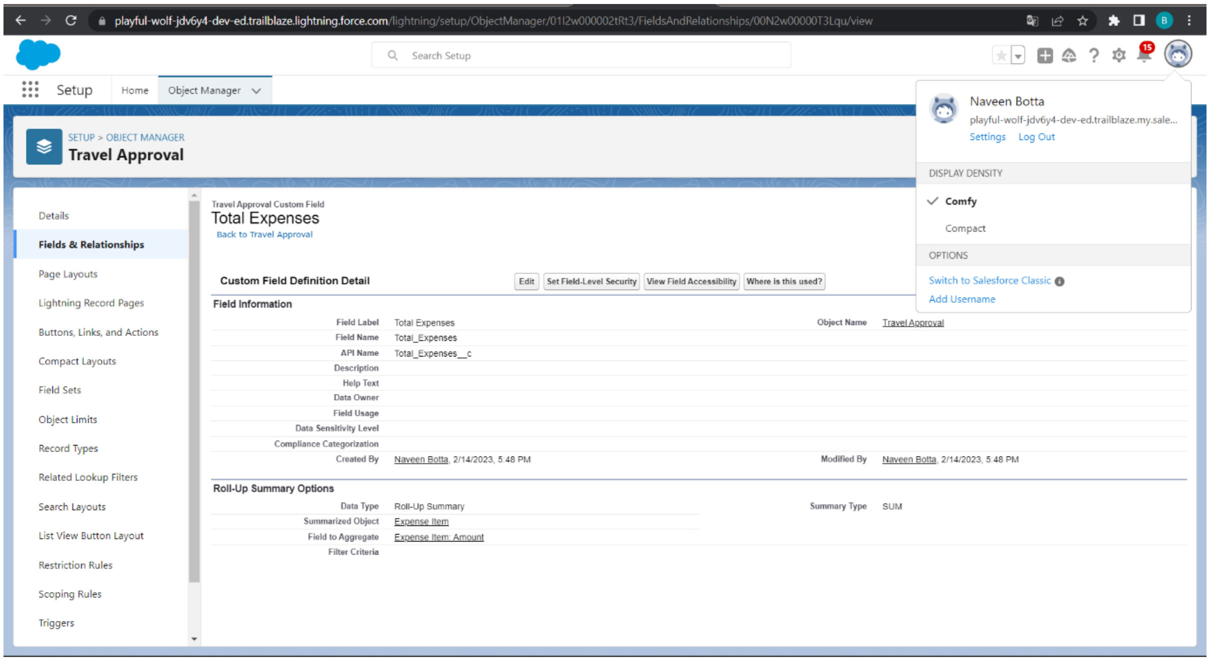
Error message

If we give greater than start date it will save not throw error



Step 2

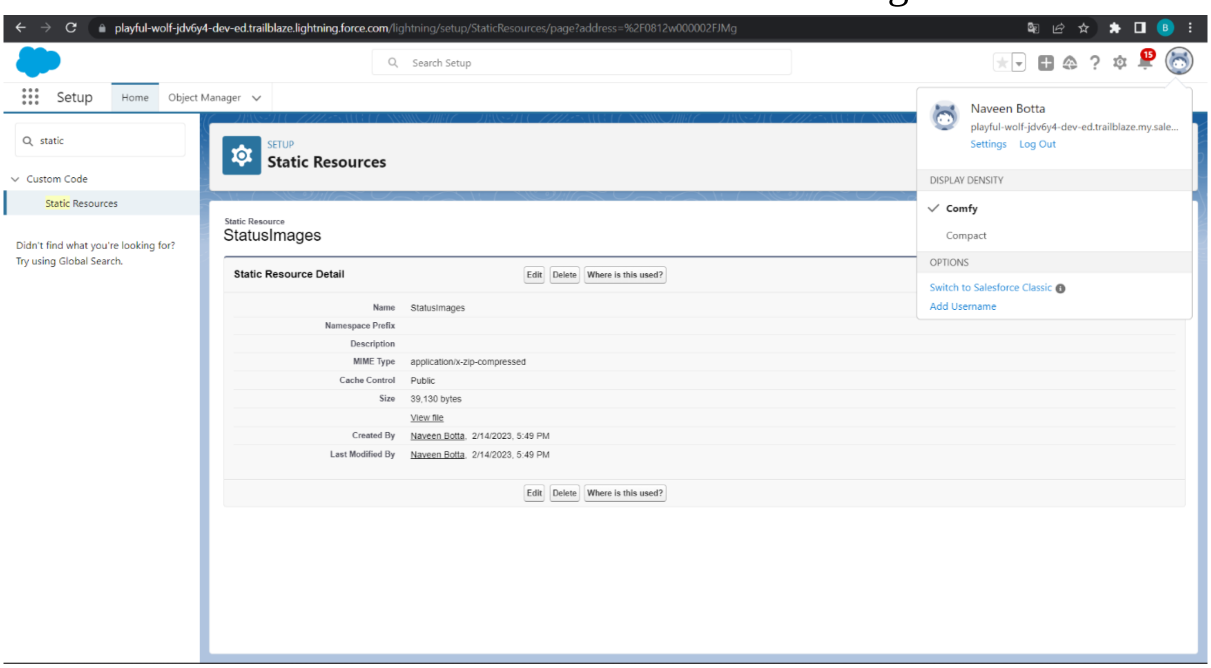
Create Roll-up Summary Field on travel Approval object



Step 3

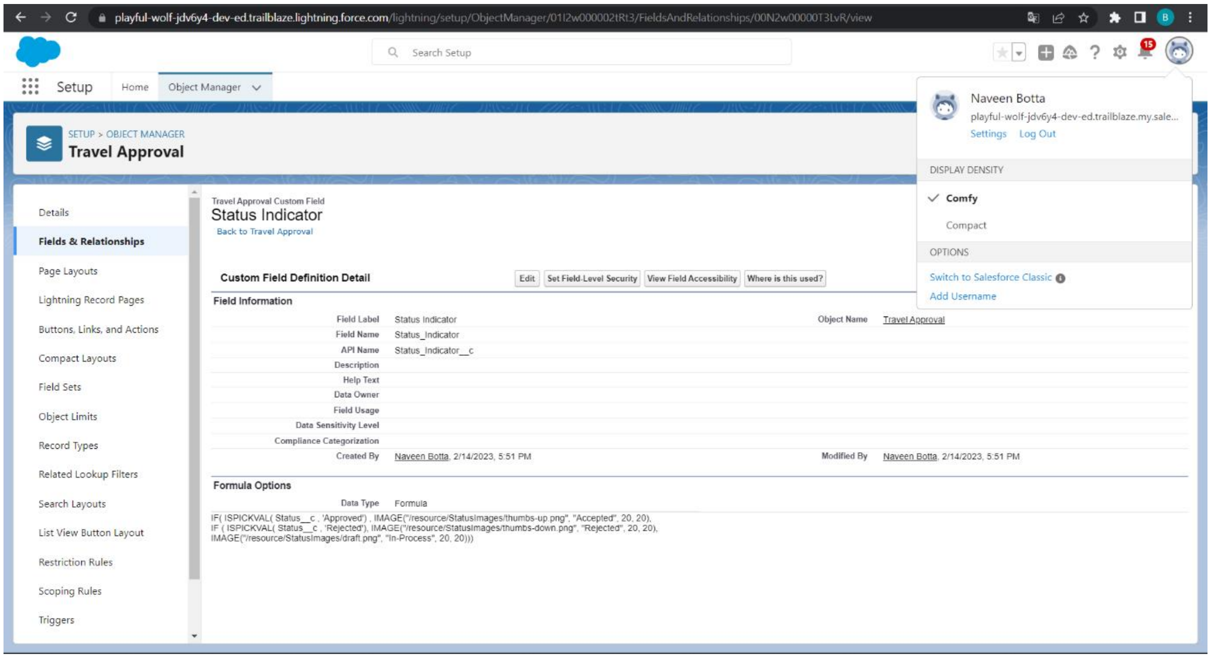
Creating Formula Fields

Static Resource with name StatusImages



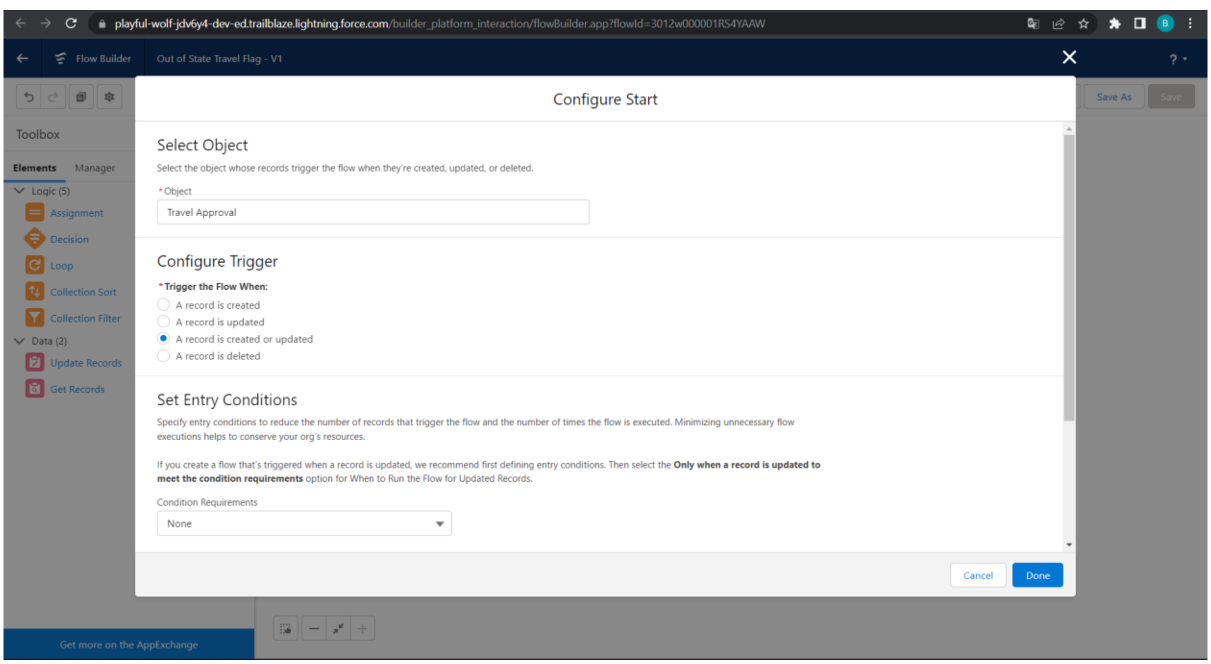
Step 4

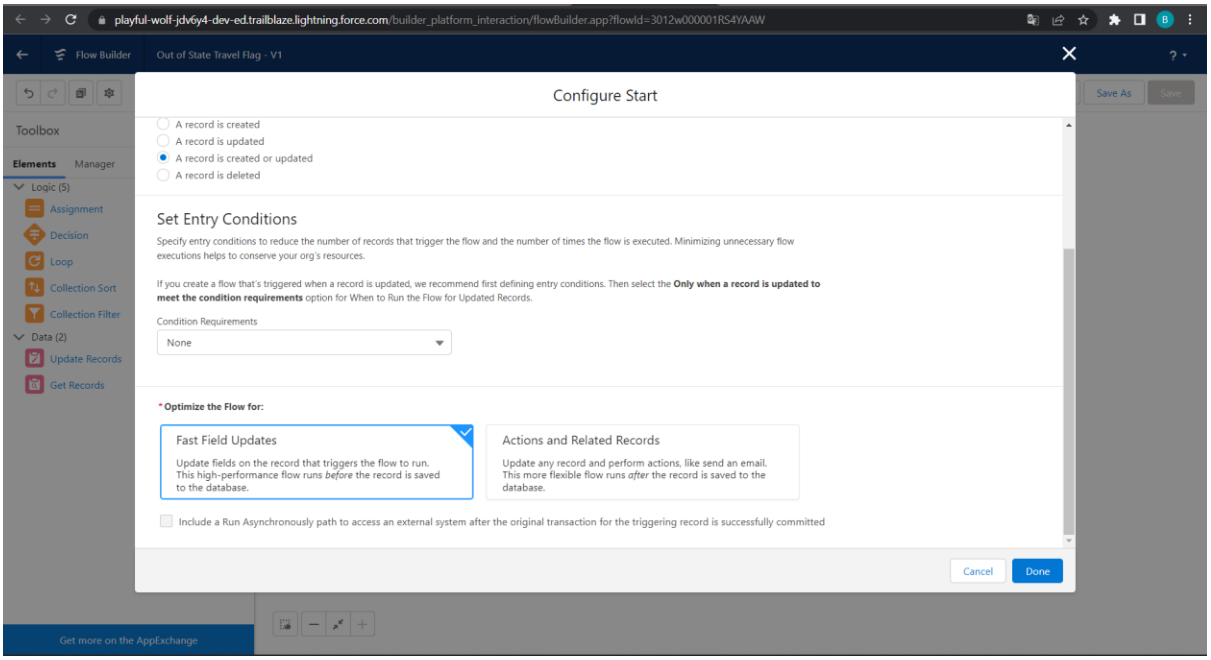
Create Status formula field on travel approval



Step 5

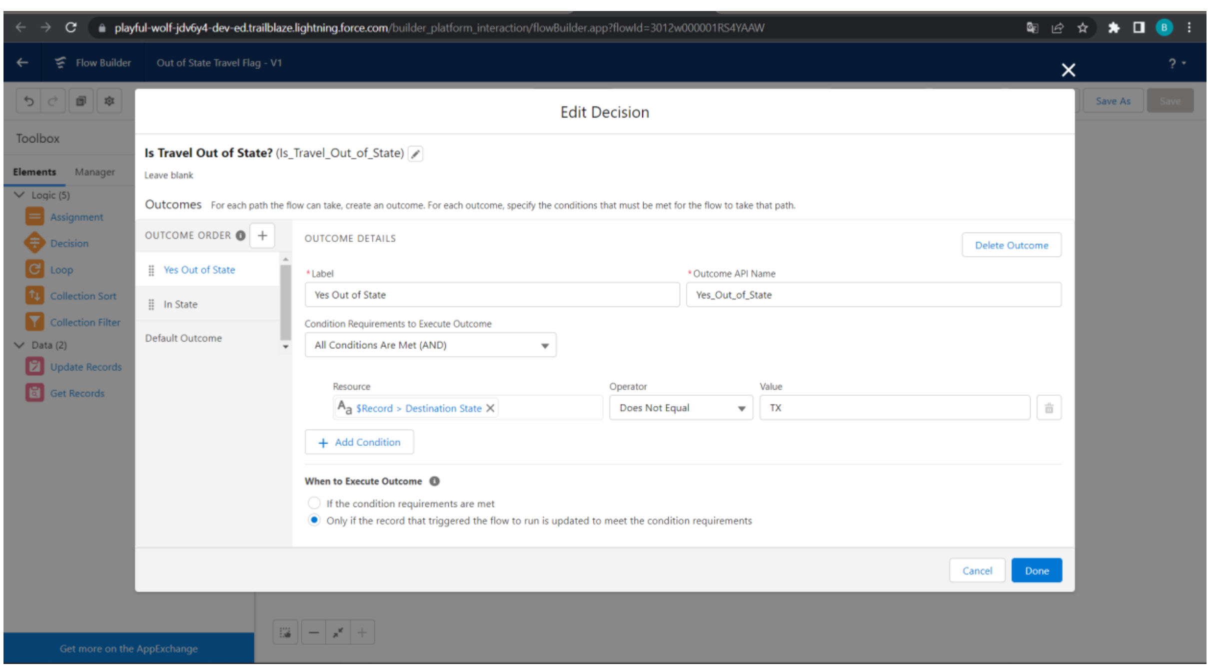
Record Triggered Flow



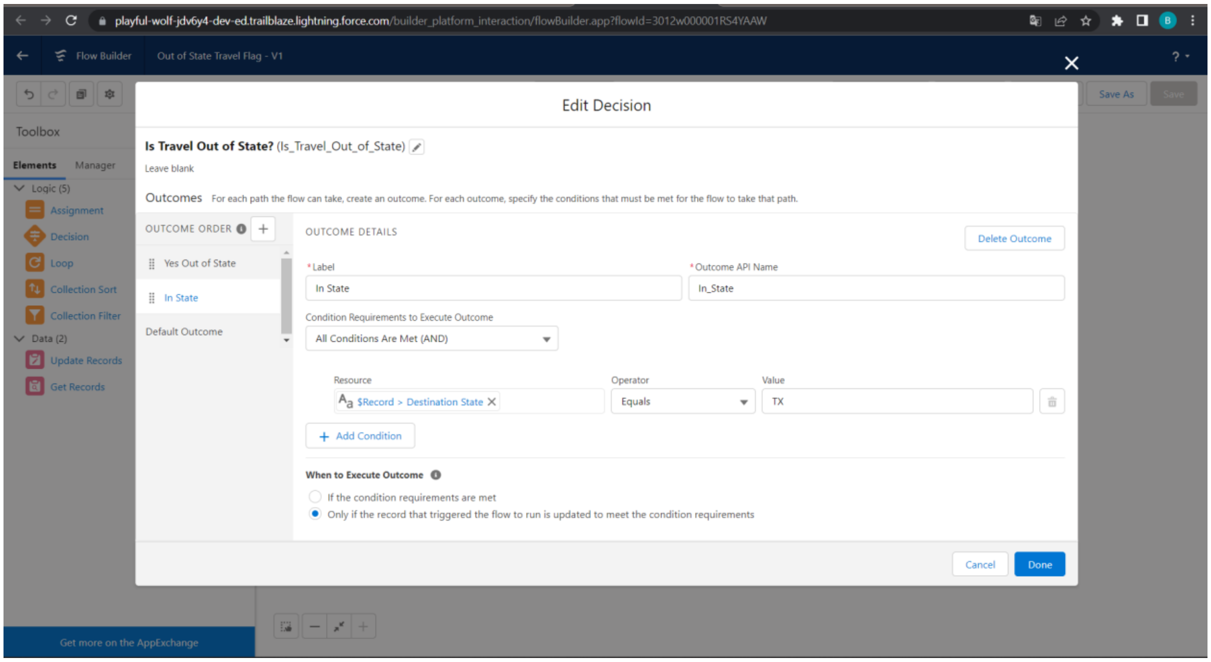


And add Decision element to flow

1. For Is travel out of state?

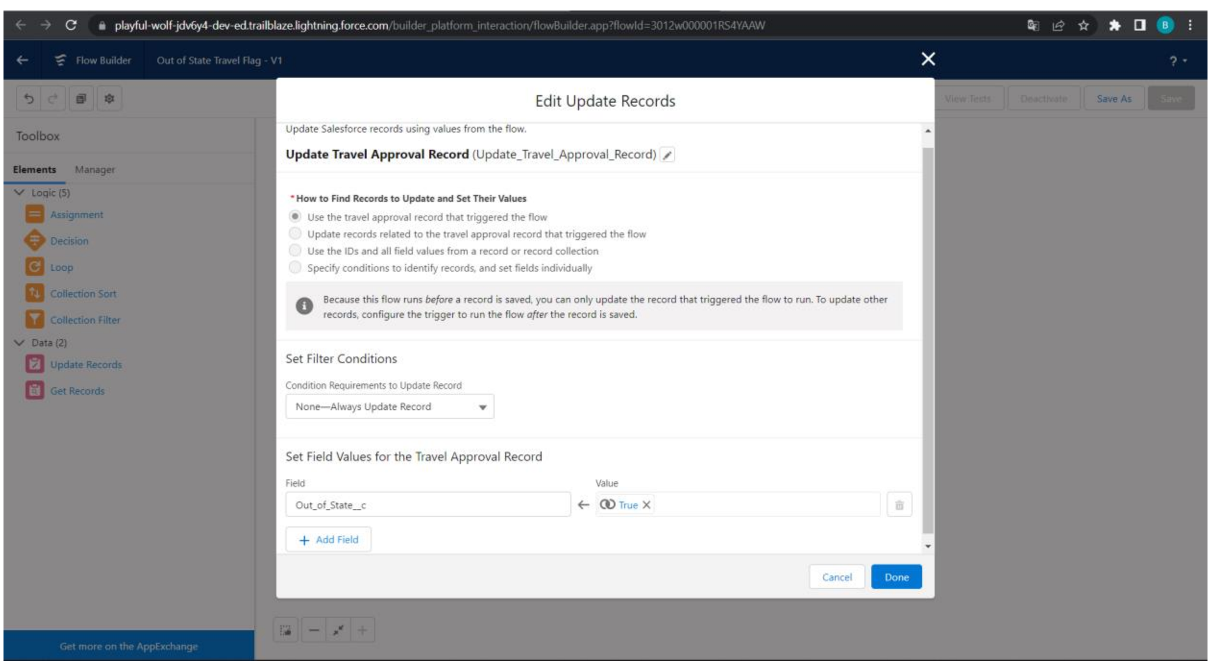


2. For in state

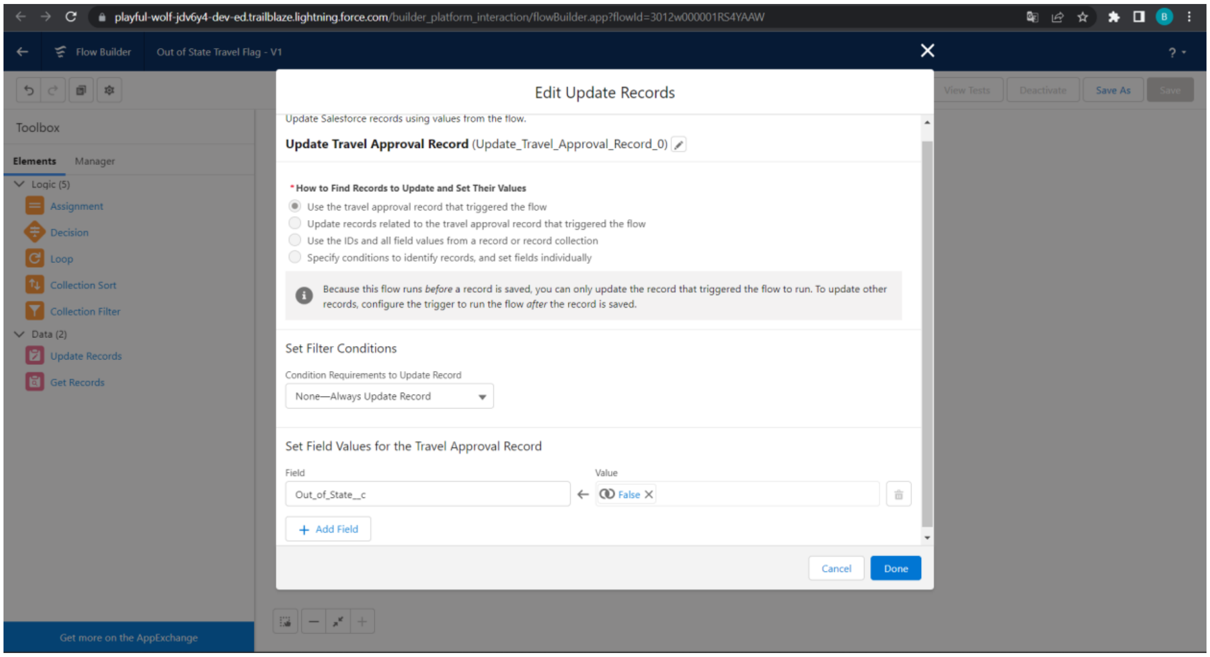


Creating action for flow using Update Record Element

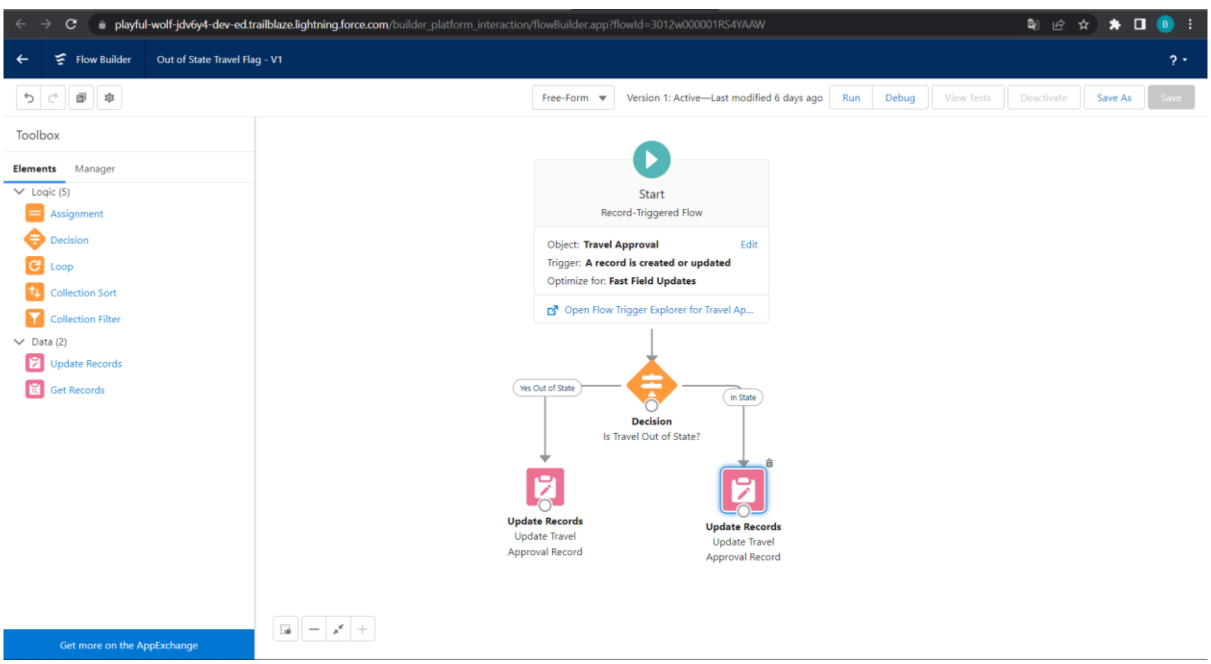
This action work if decision- Is out of state?



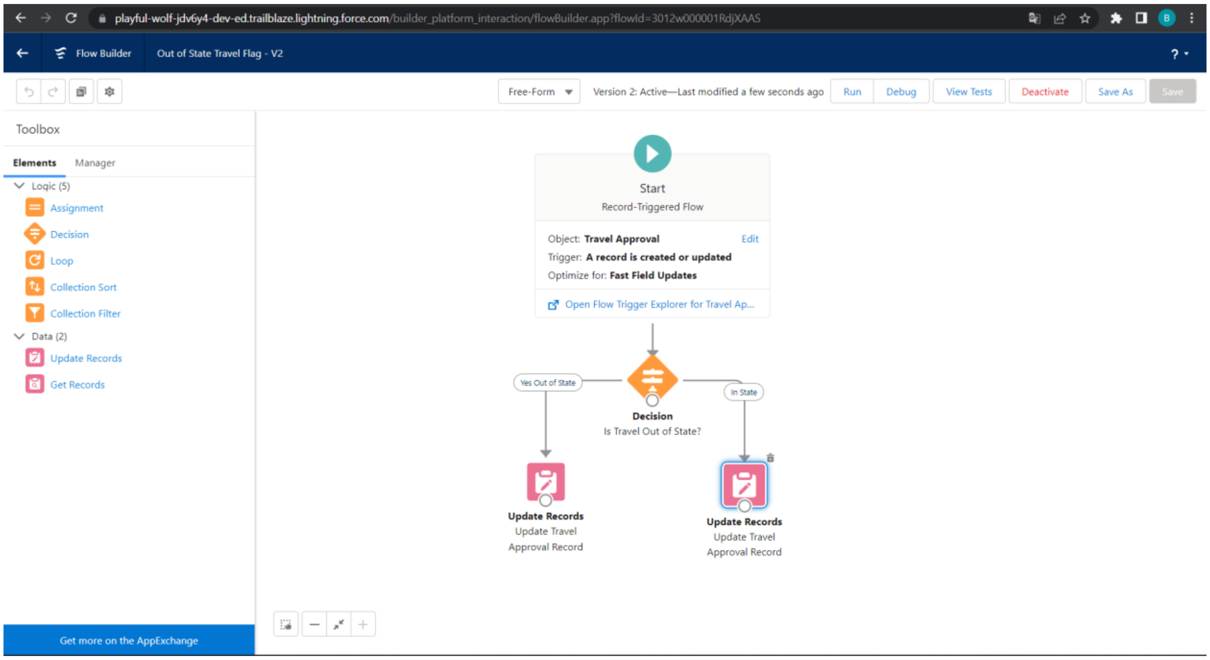
This decision works for- In State



Finally, the flow looks as shown

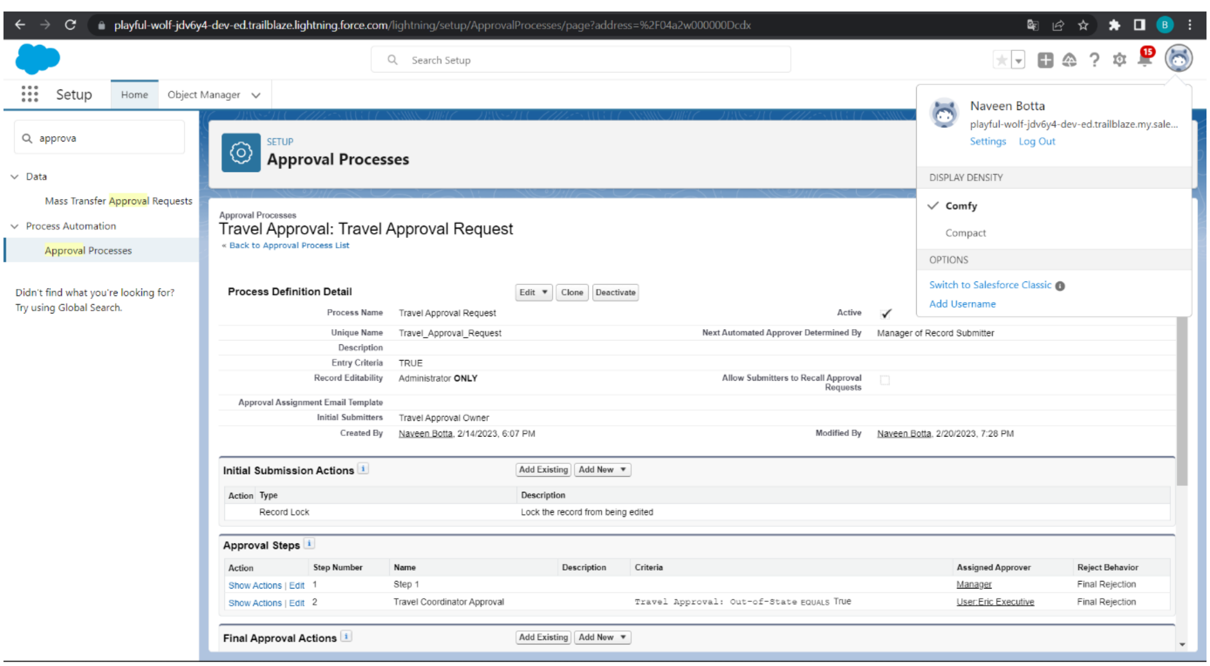


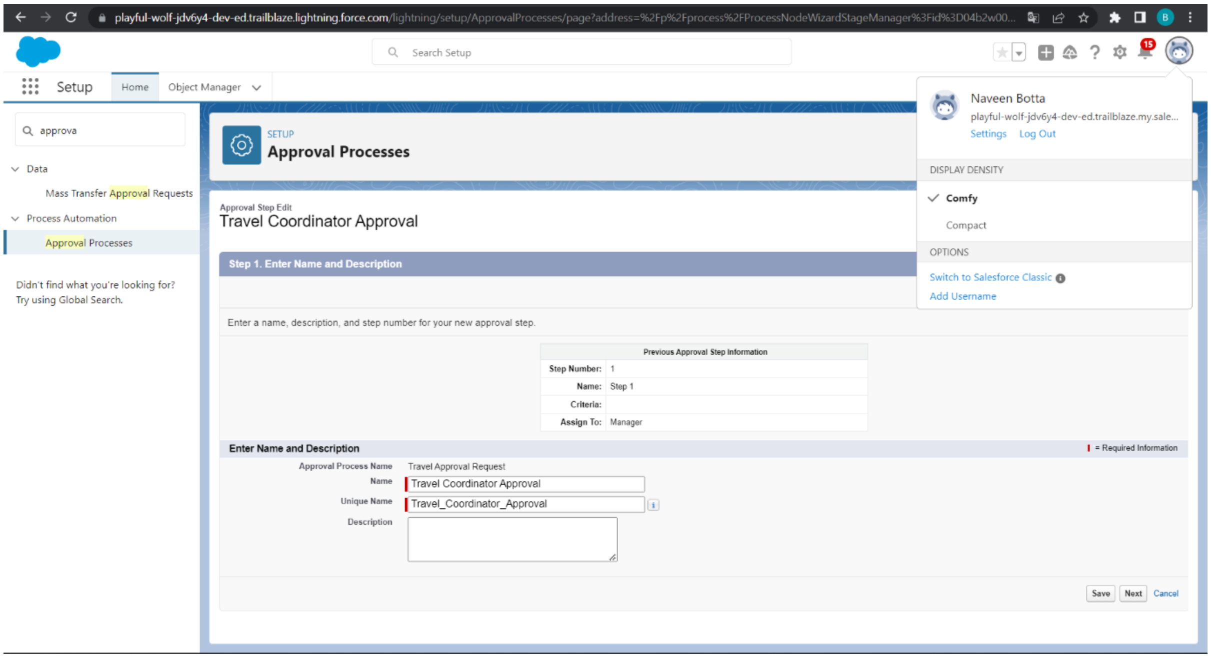
Save and activate the flow



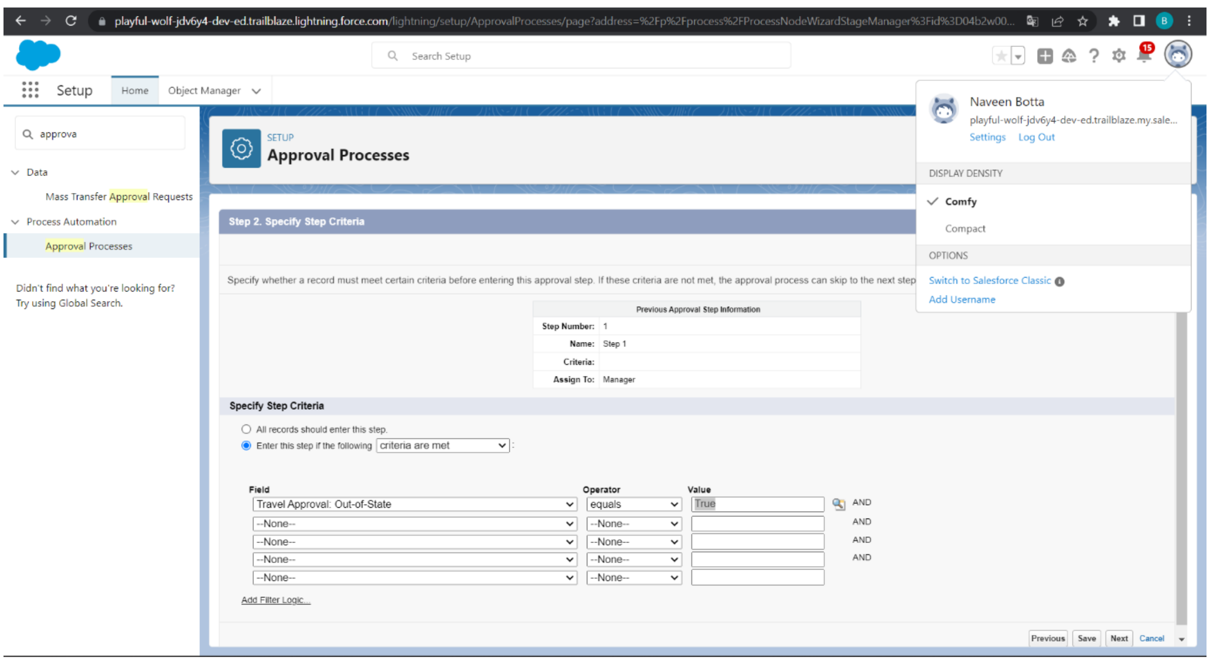
Step 6

Creating an Approval Process to send travel approvals to manager or travel coordinator.

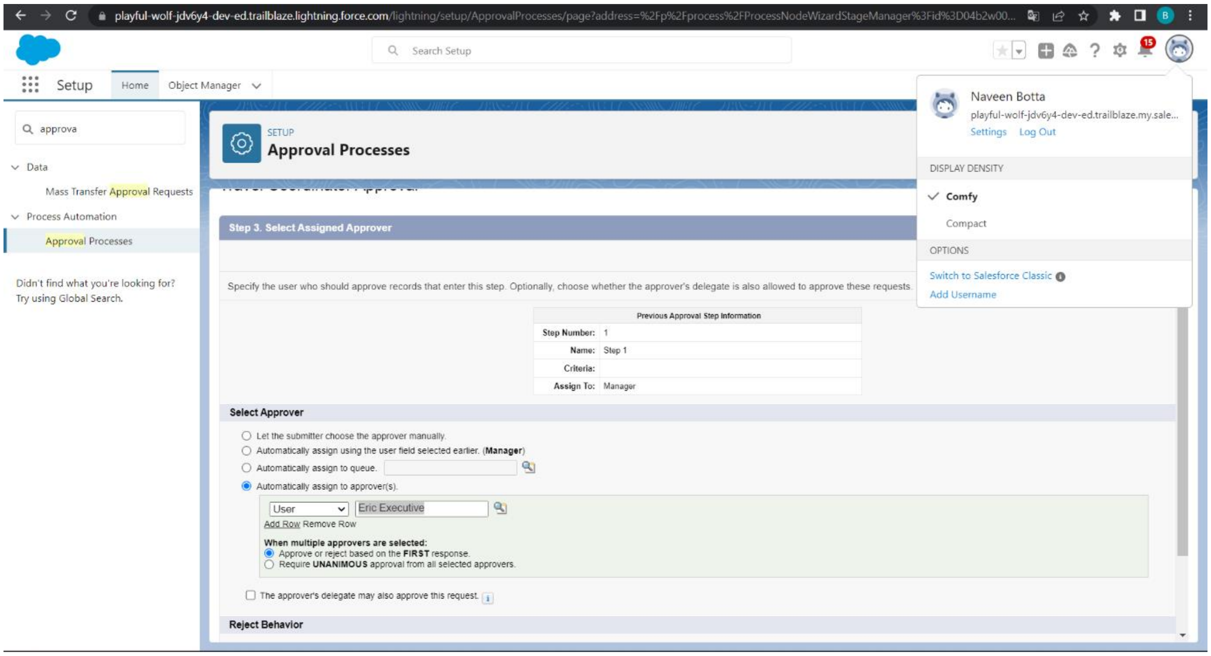




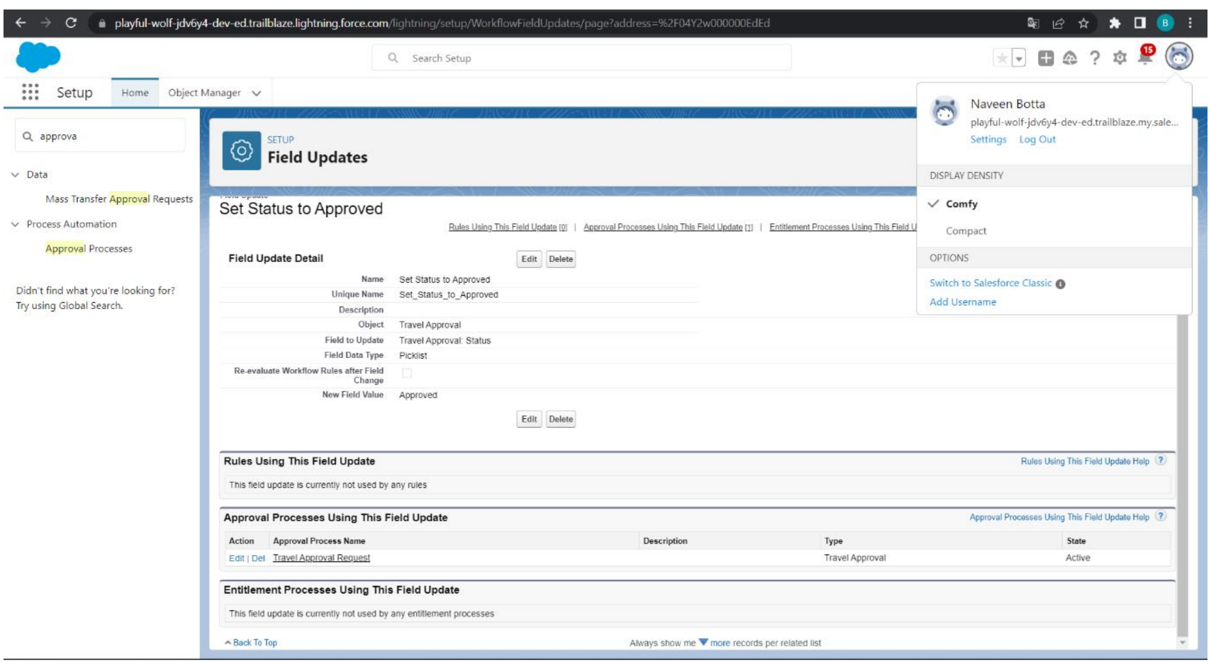
Criteria are met : out of state = true



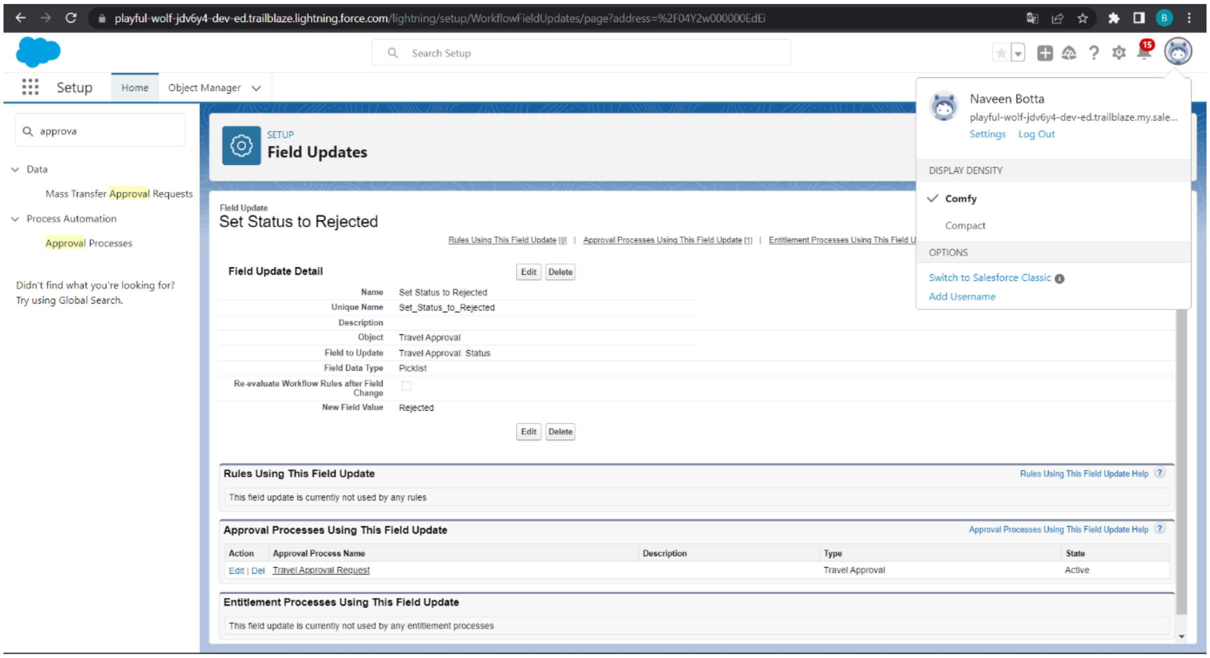
Selecting eric as manager



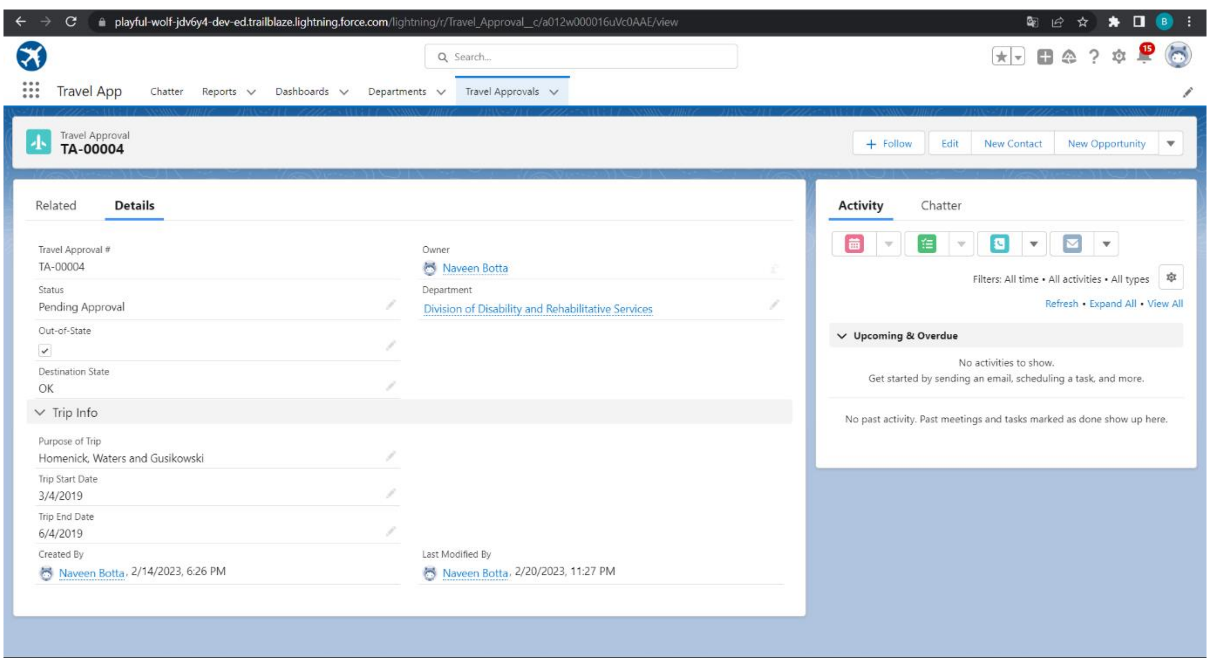
Final Approval Action



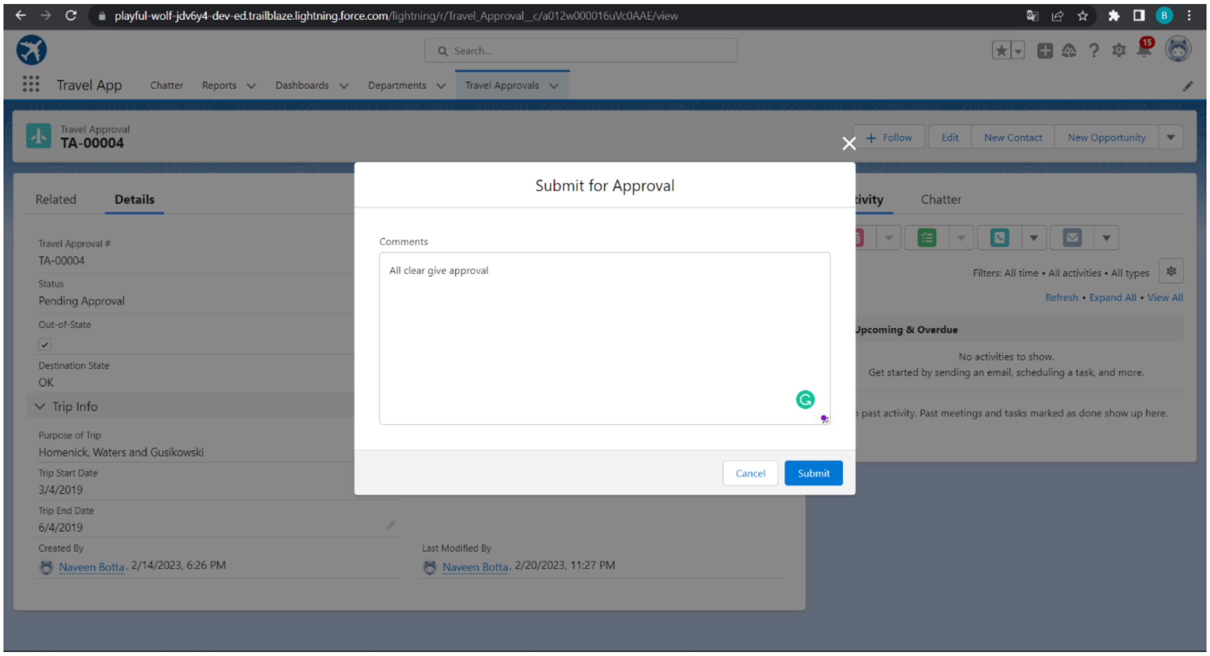
Final Rejection Action



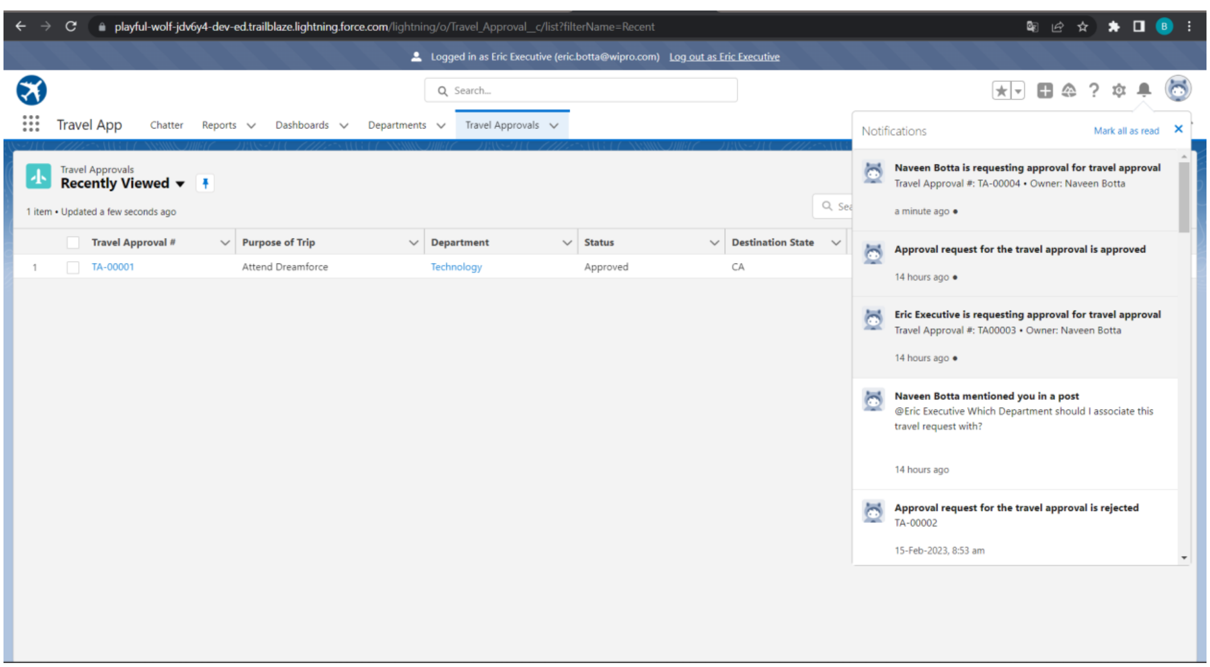
Testing the approval process
Status is pending here



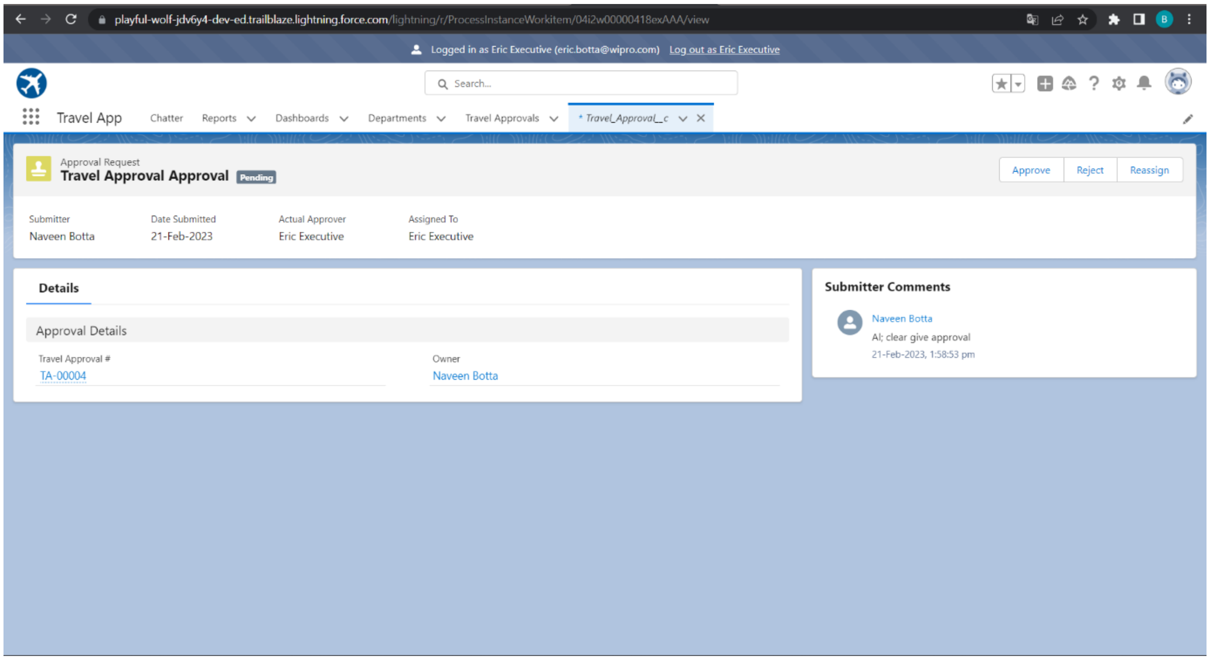
Submit for approval with comment



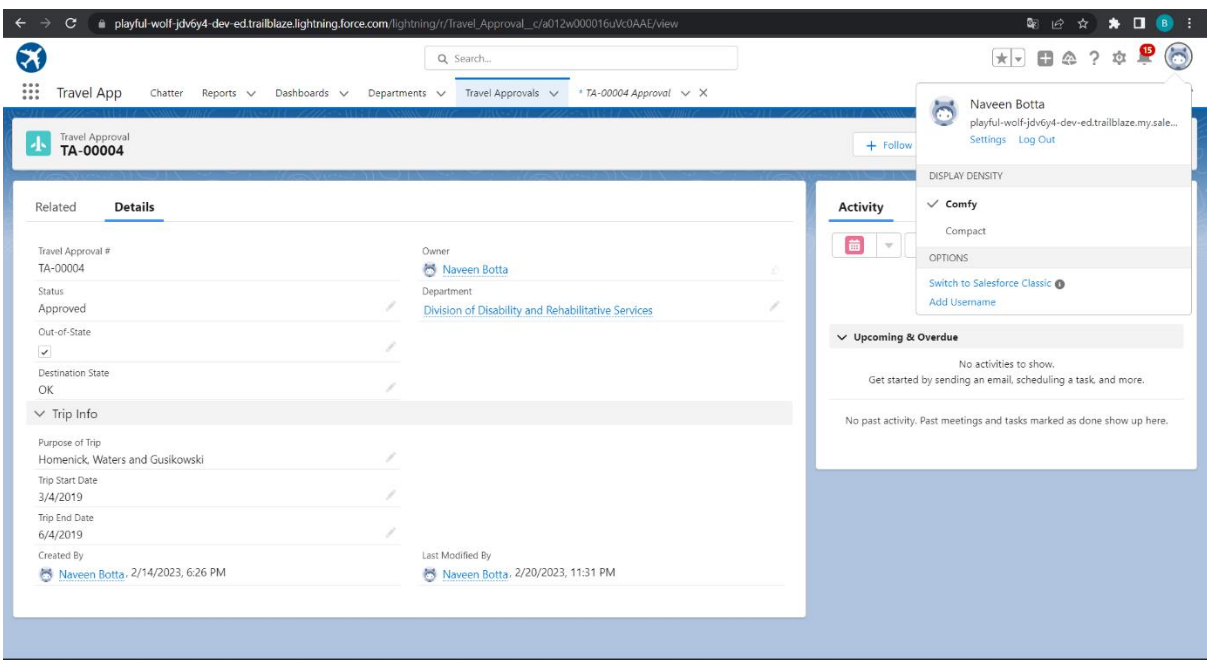
Login as Eric to give Approval



Eric Can Approve or Reject



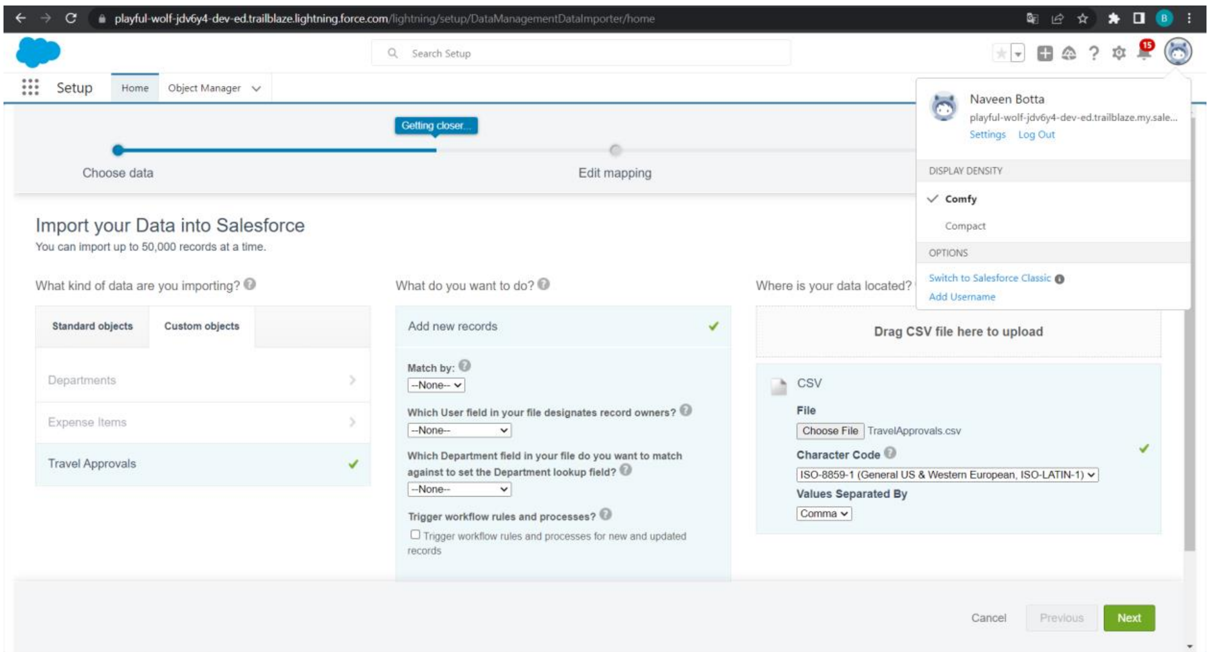
After giving Approval

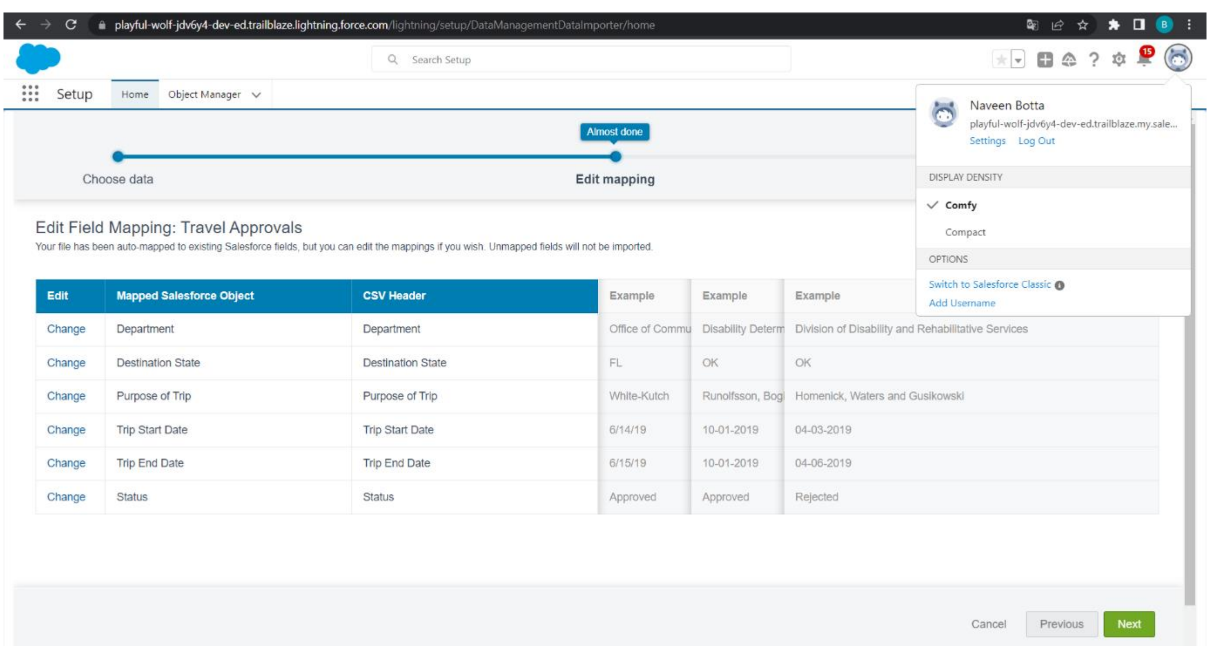


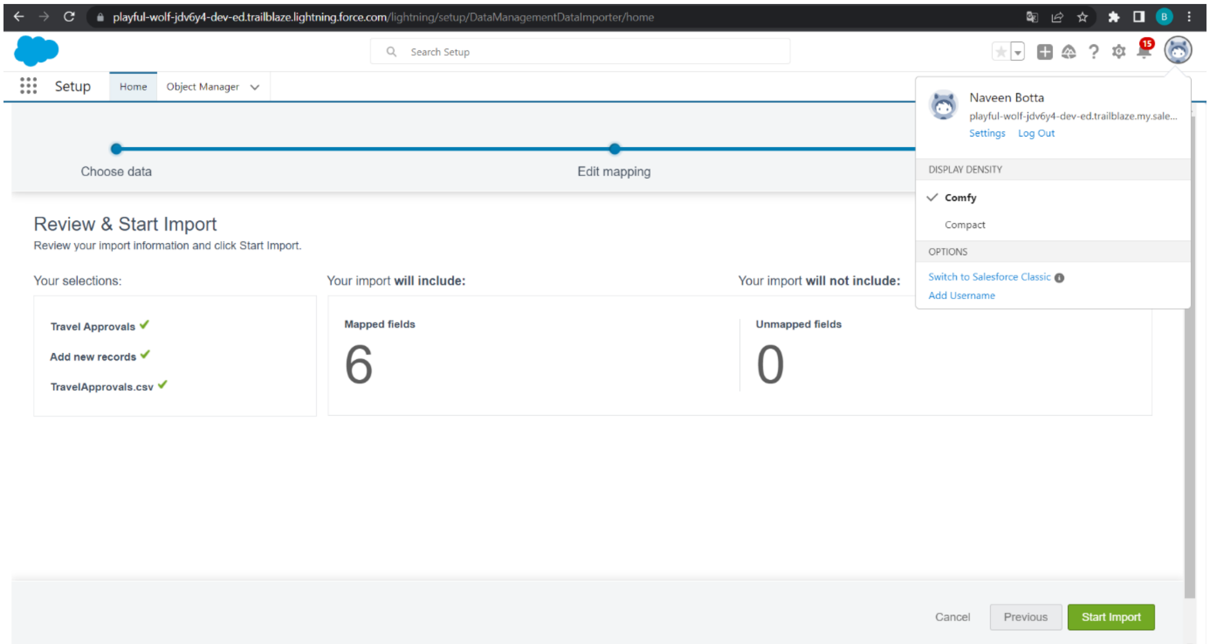
Exercise 2

Step 1

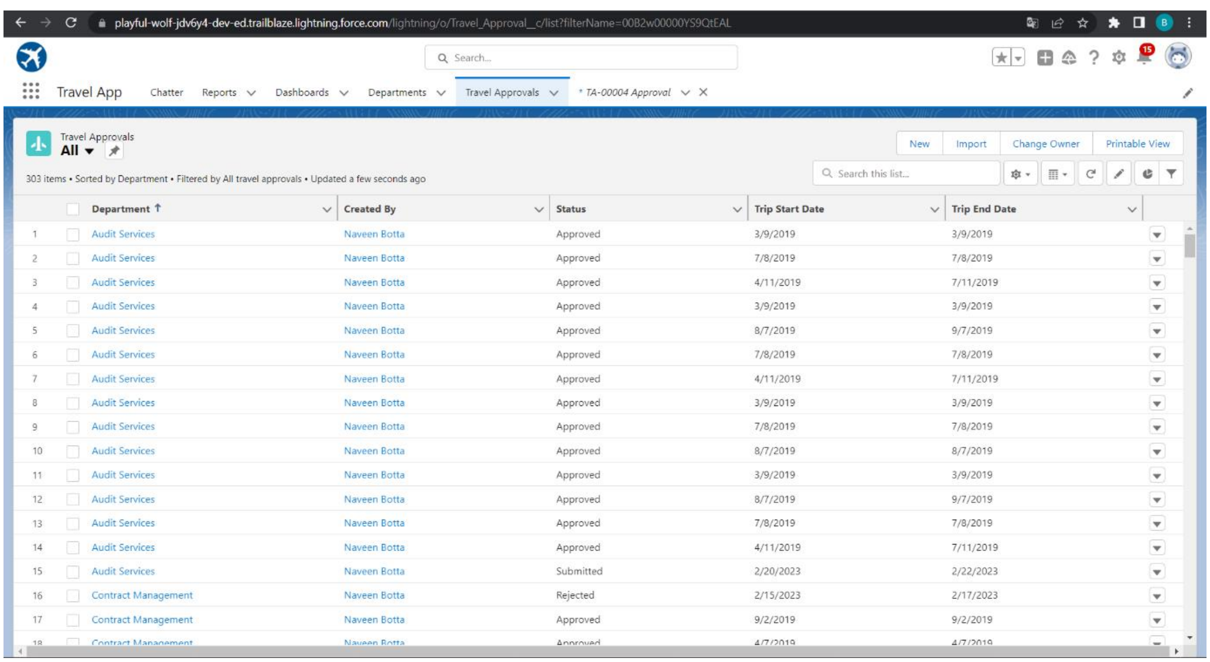
Using Data import wizard to import travel approval records





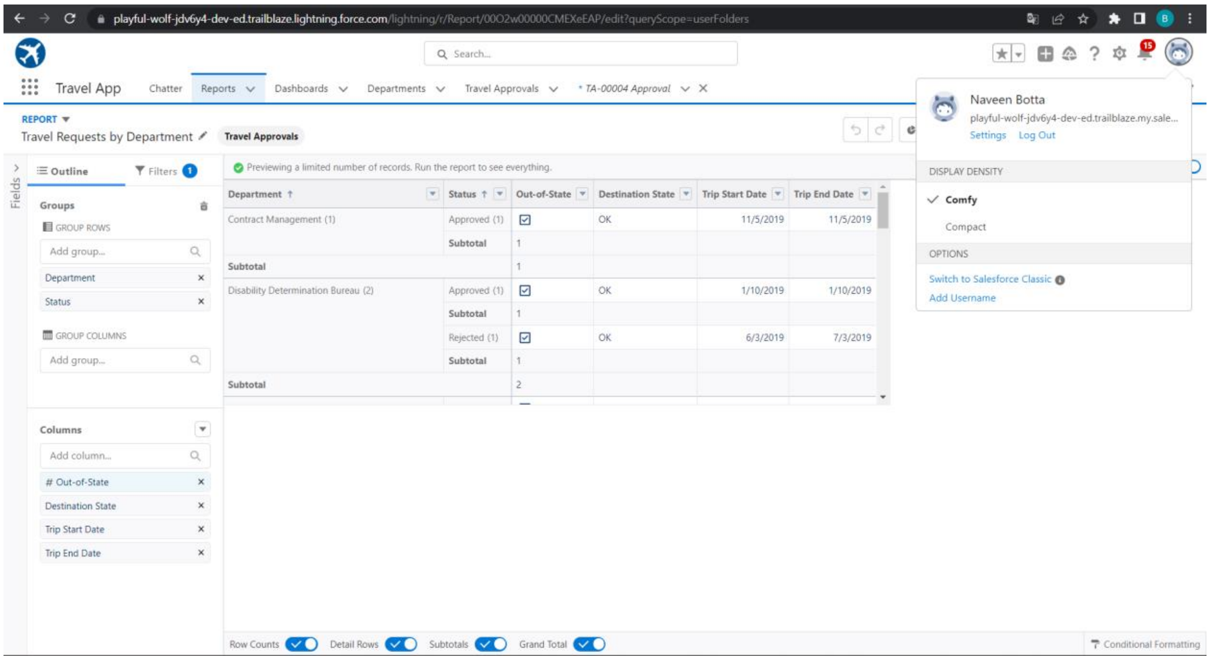


Records imported successfully

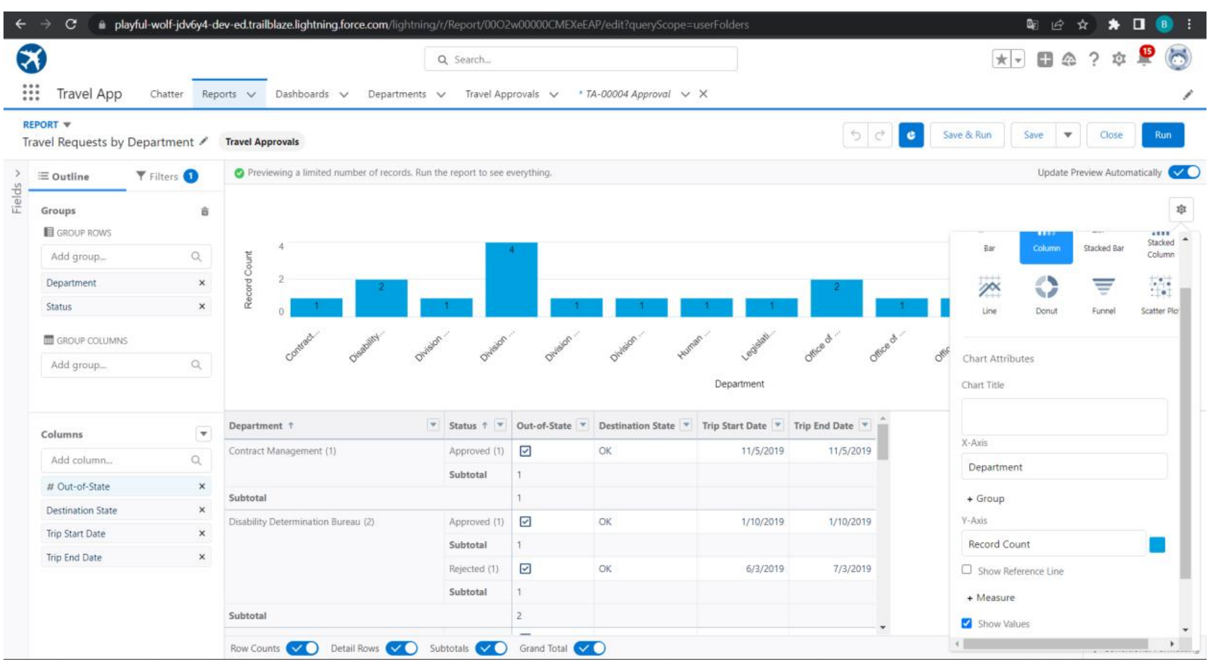


Step 2

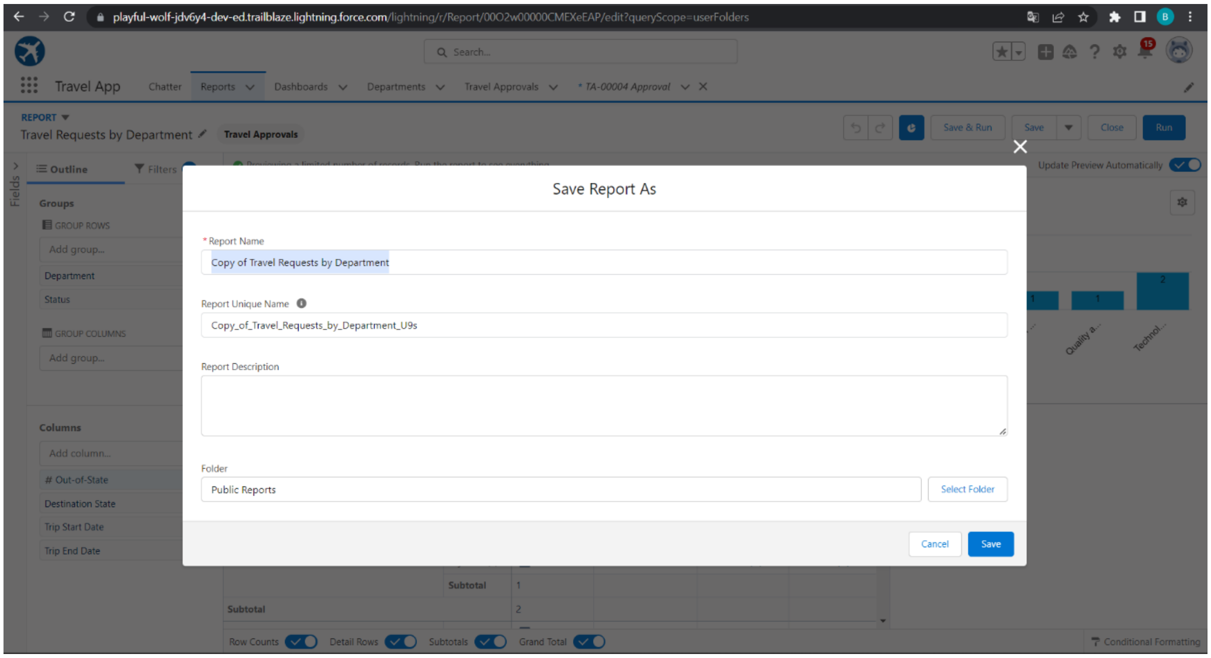
Creating Travel Request by Department report



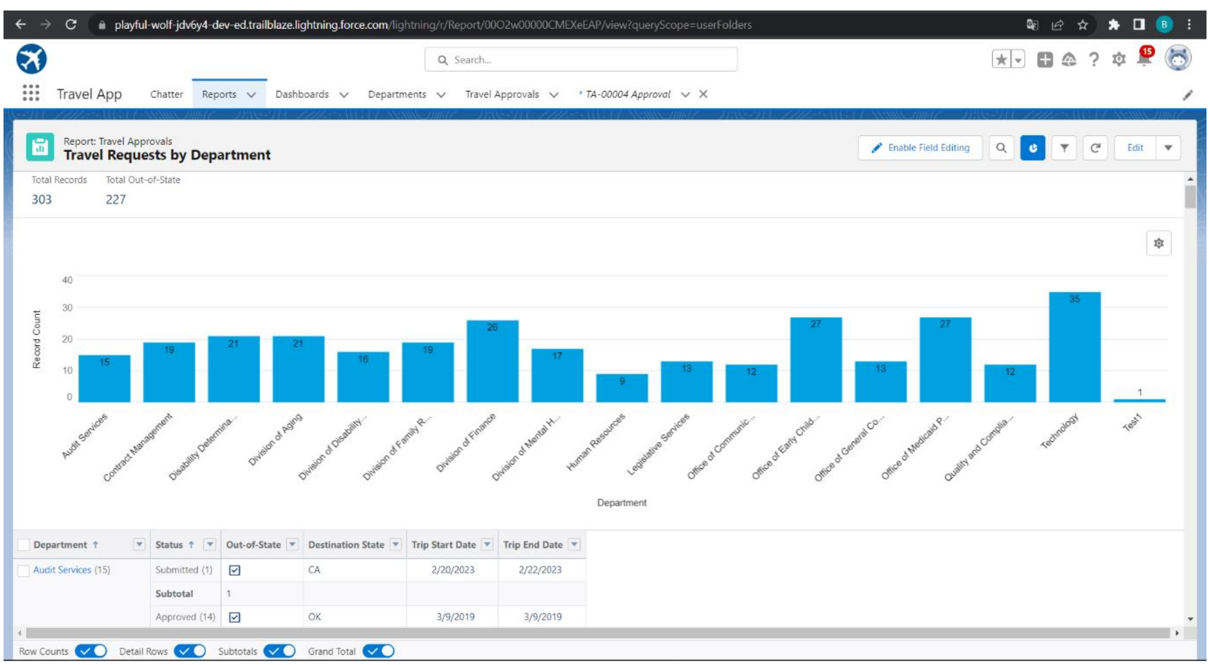
Adding Chart properties



Saving in public folder

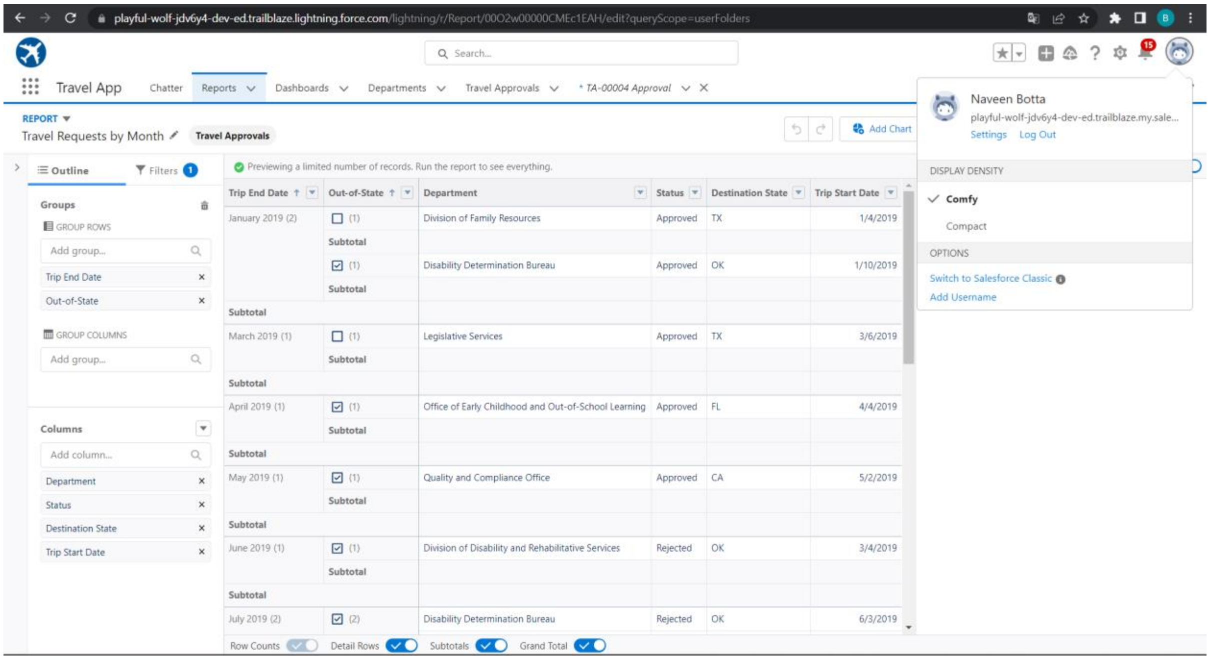


Final Report

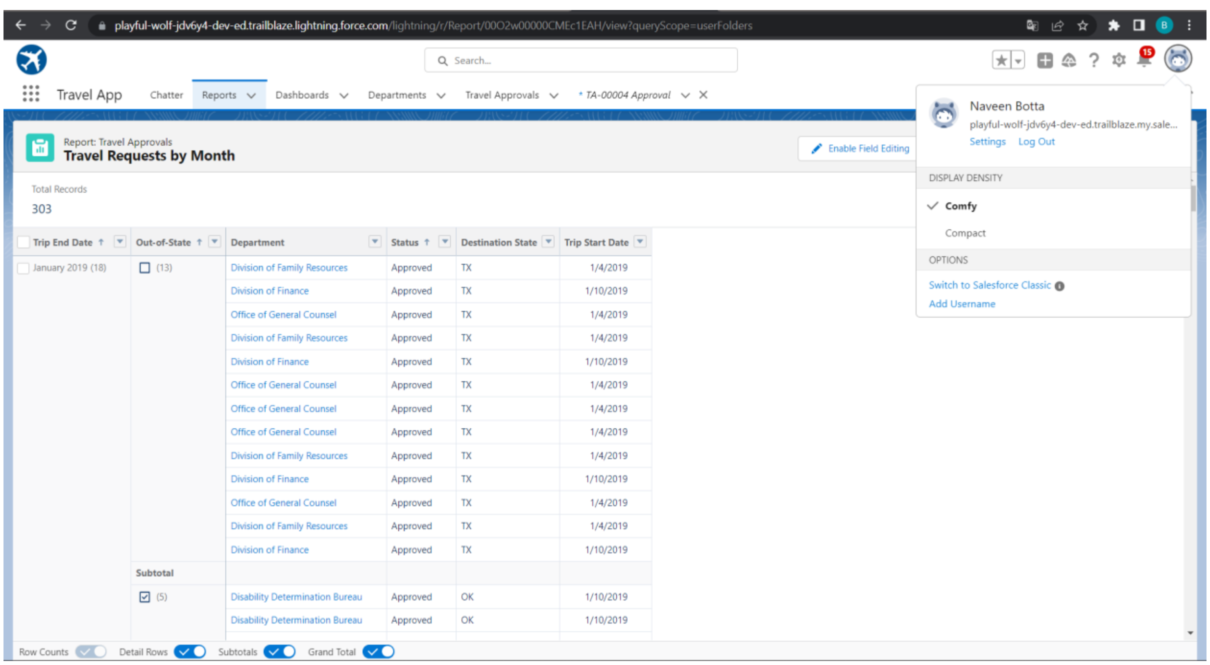


Step 3

Creating Travel request by Month Report

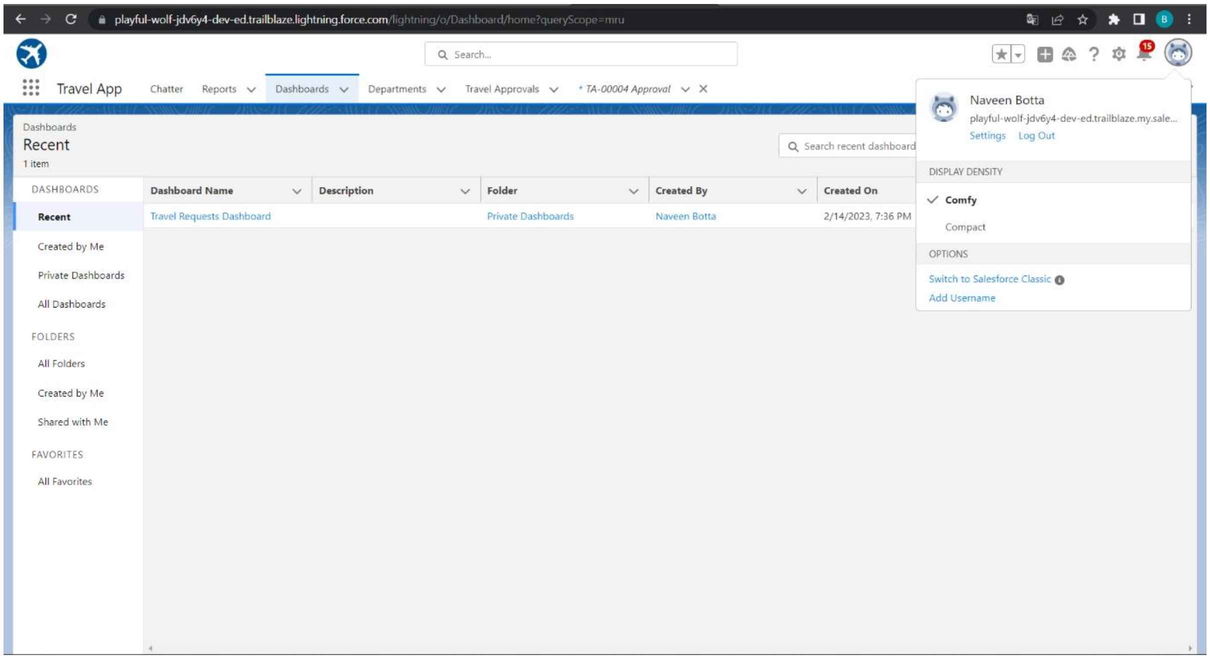


Final report

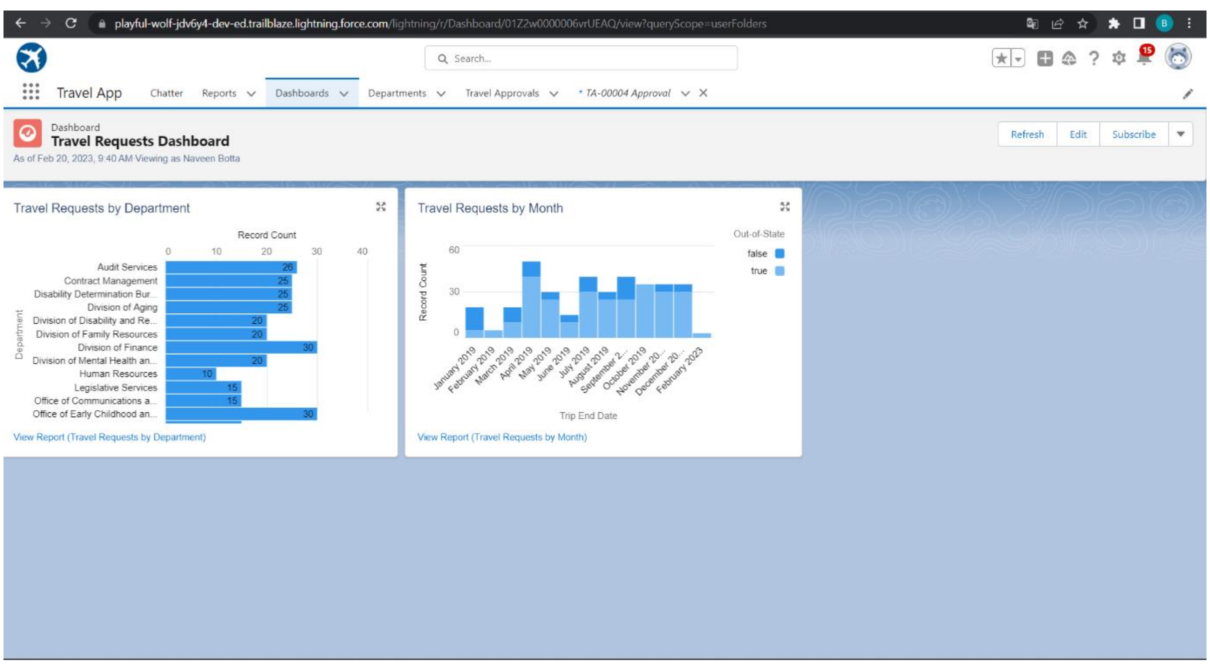


Step 4

Dash board saved in private folder



Final Dashboard

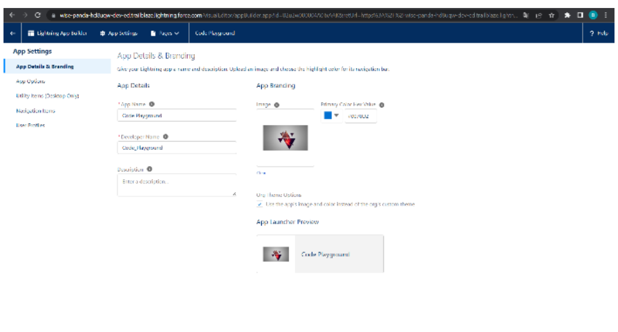


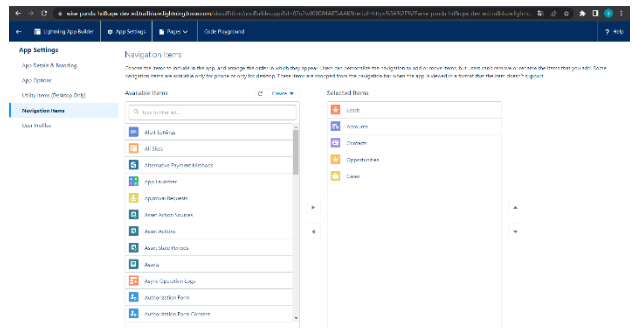
Module 3

Code Playground App

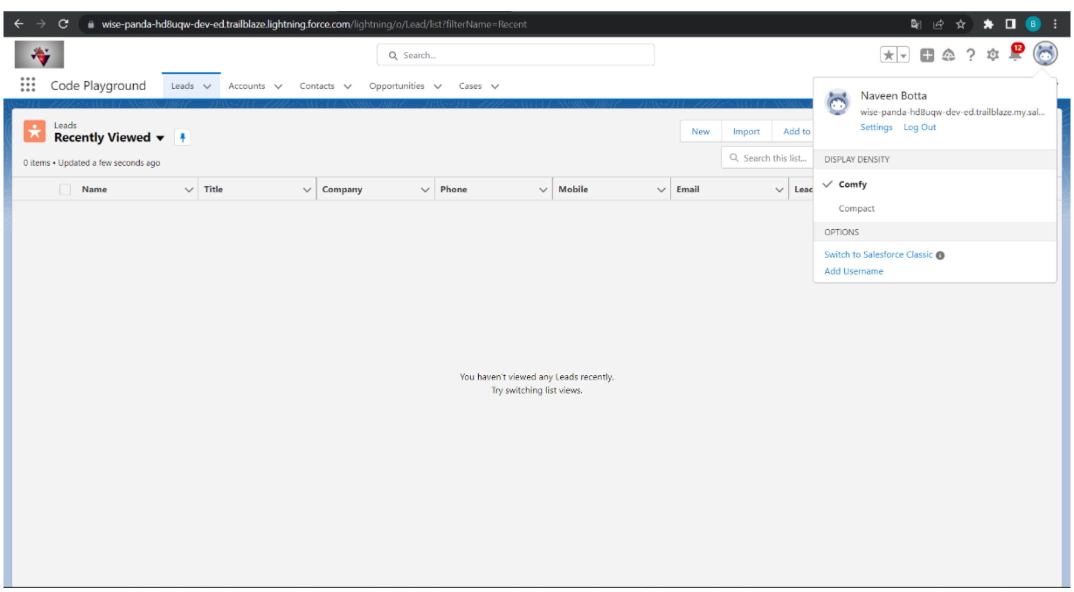
Exercise 1

Creating Code Playground Lightning App with Lead, Account, Contact, Opportunity, Case to navigation profile as system admin.

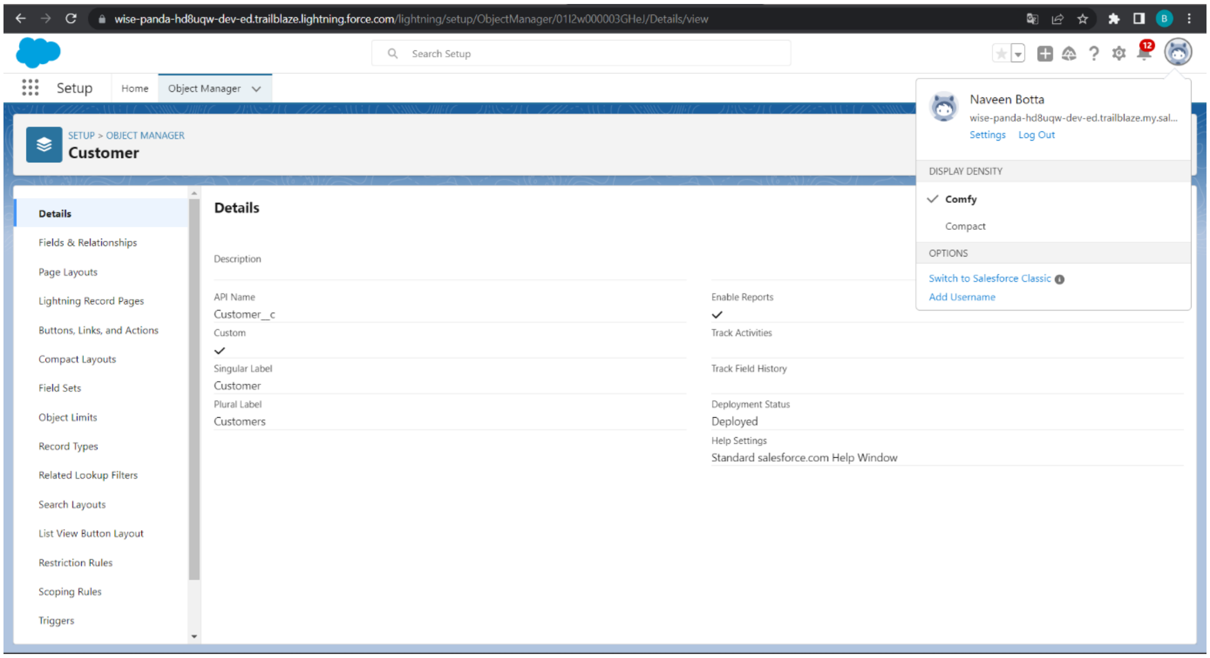




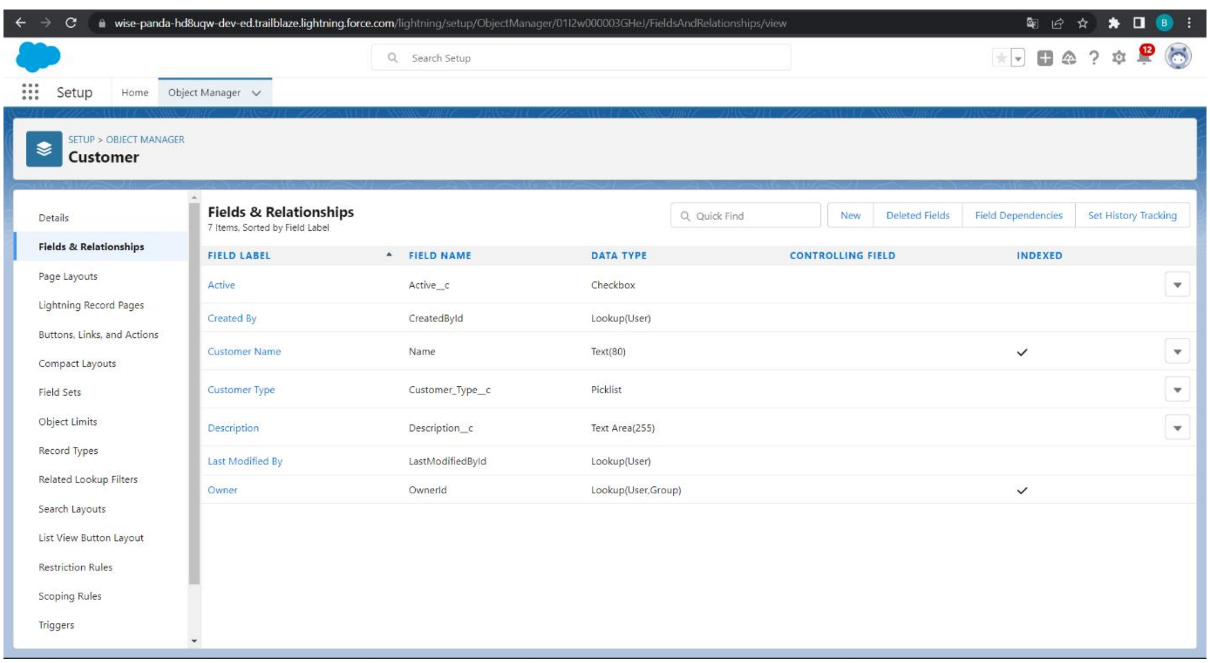
Finally, it looks Like as shown



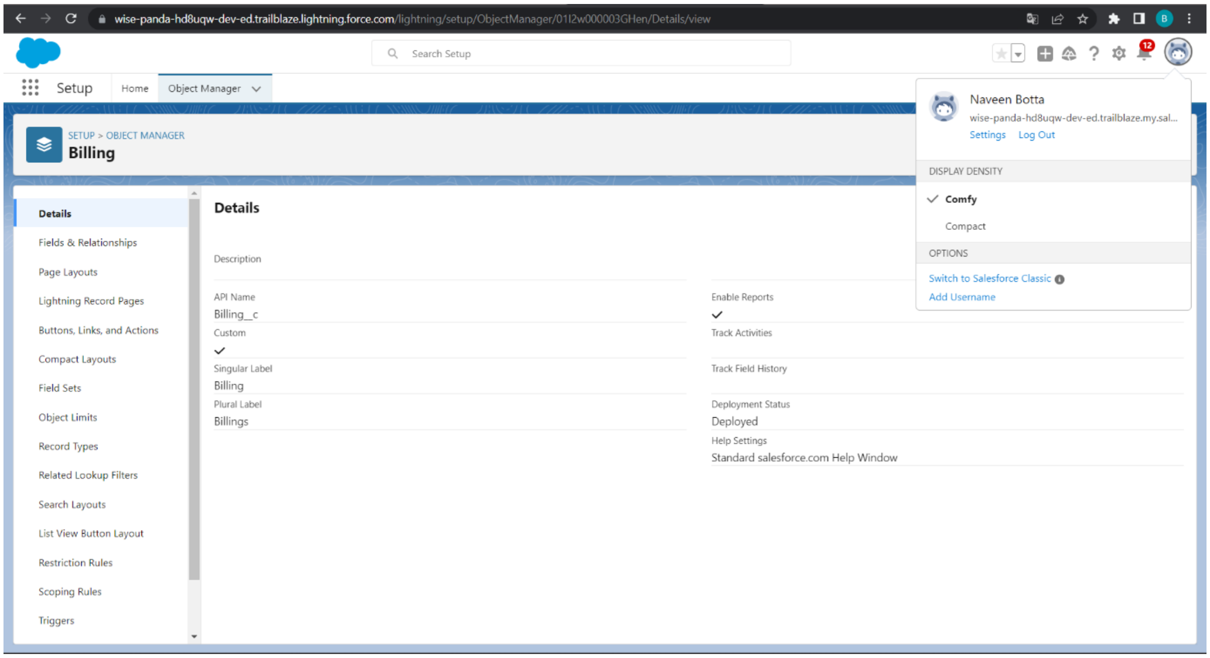
Creating custom objects



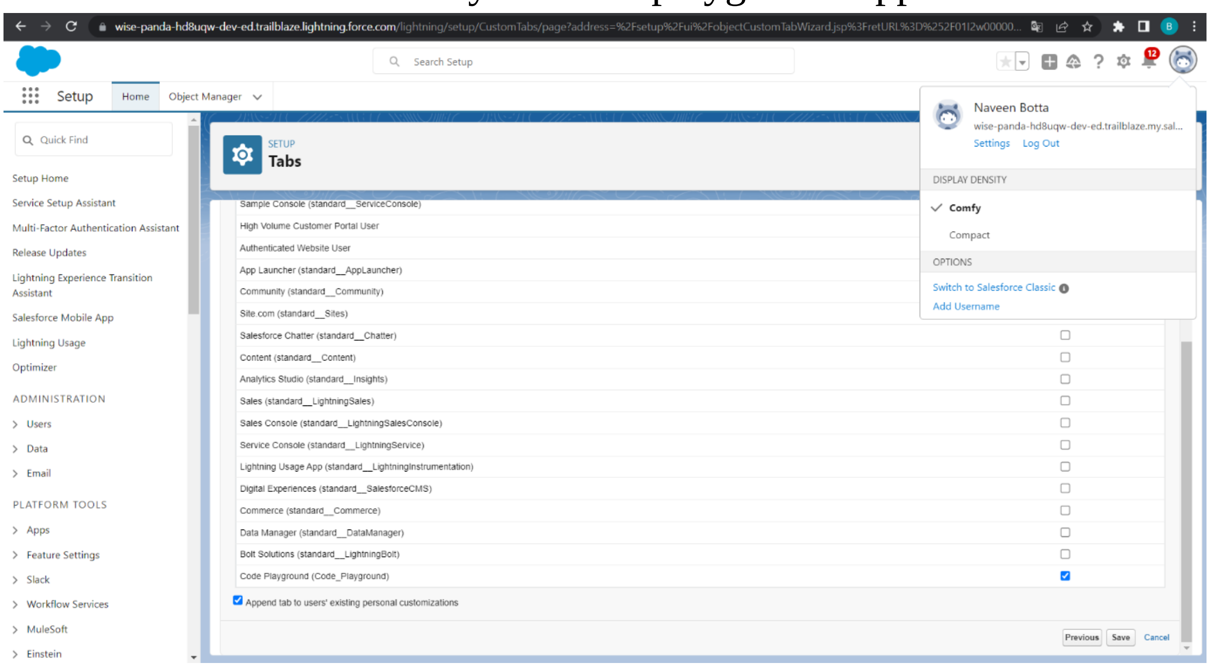
Custom fields on Customer custom object



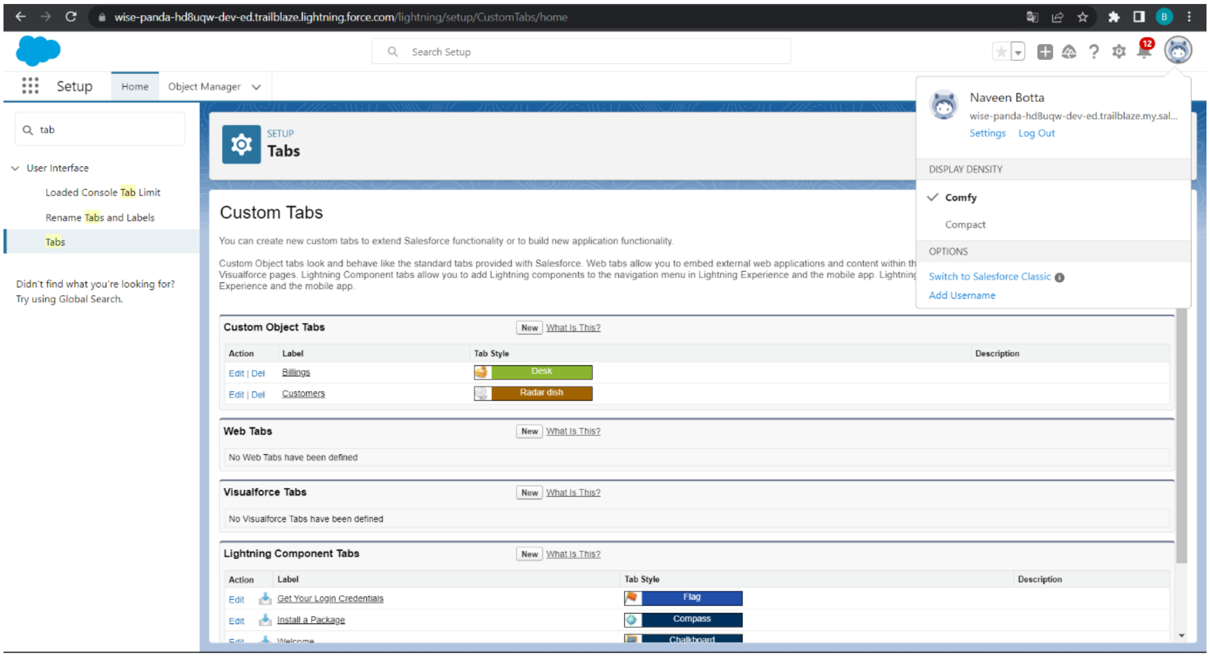
Creating Billing Object



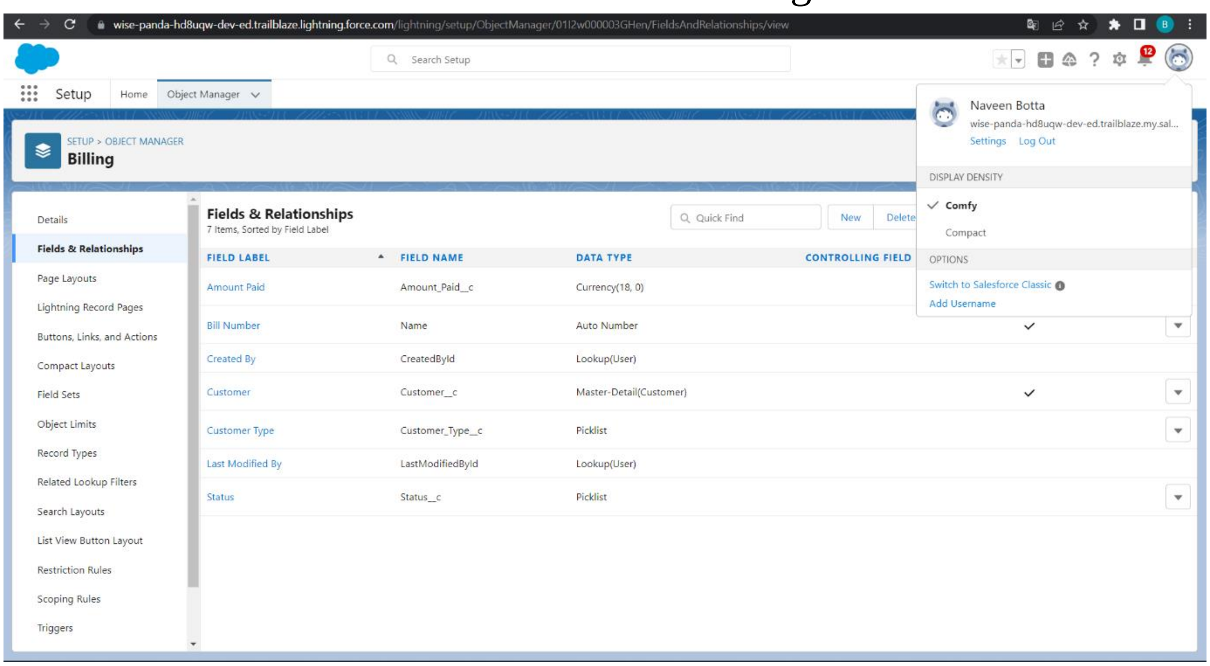
Tab only for code playground app



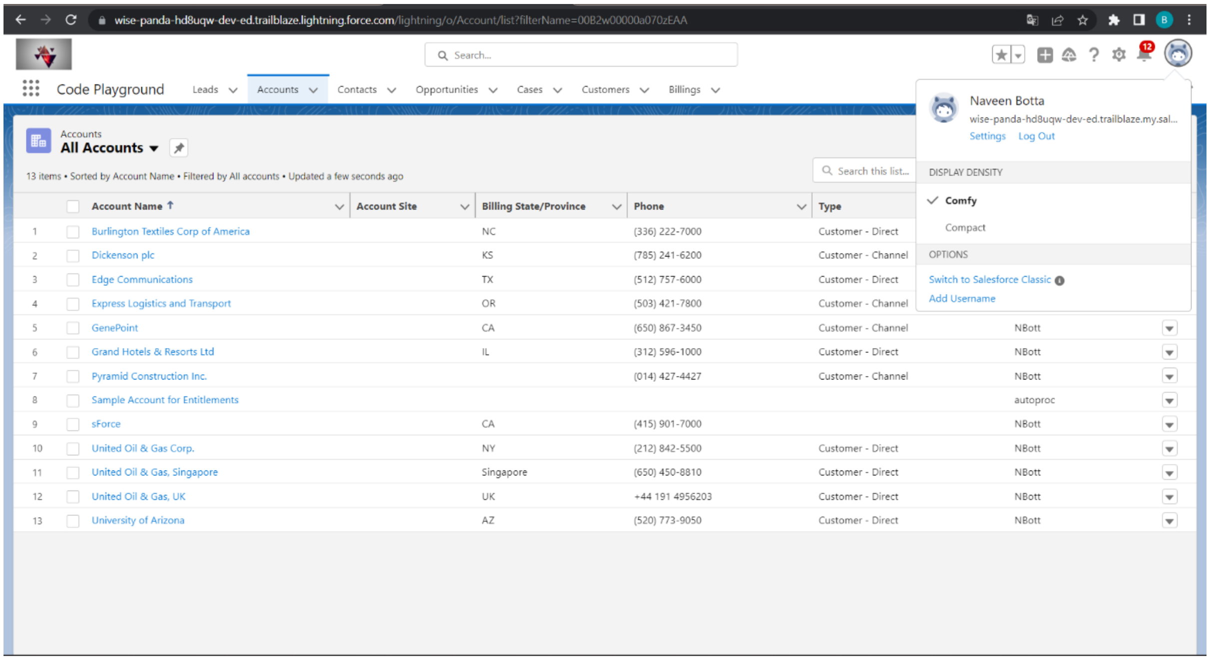
Tabs for Customer and Billing Objects



Custom fields on billing



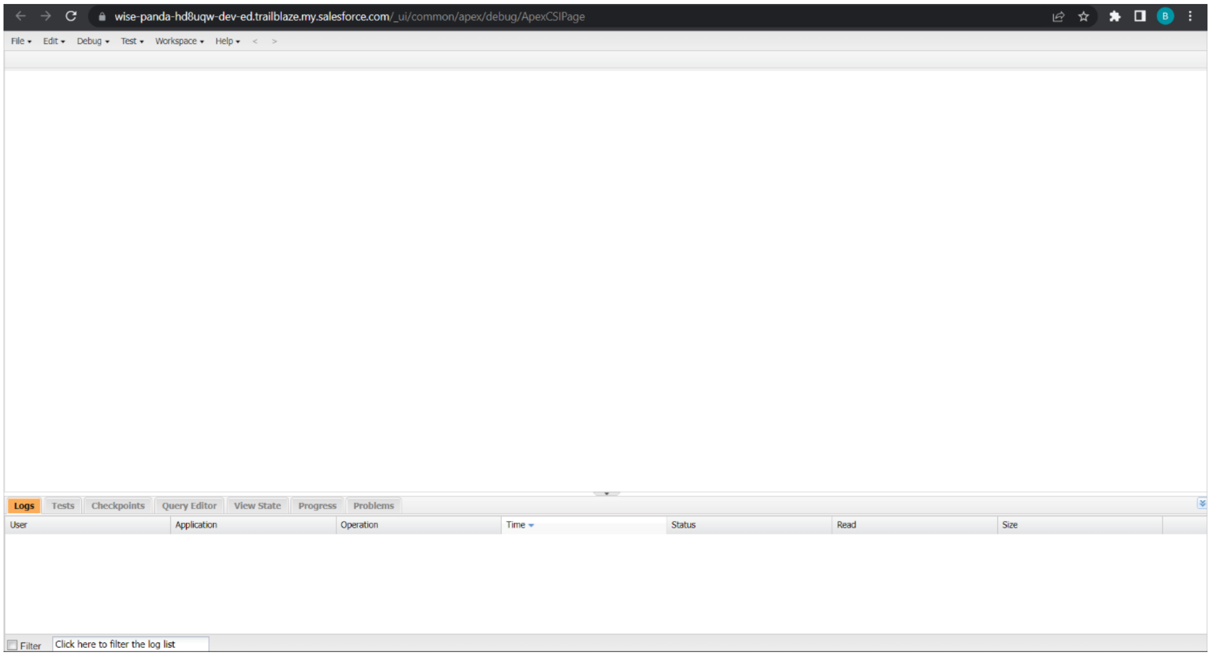
Finally, it looks as shown below



Exercise 2

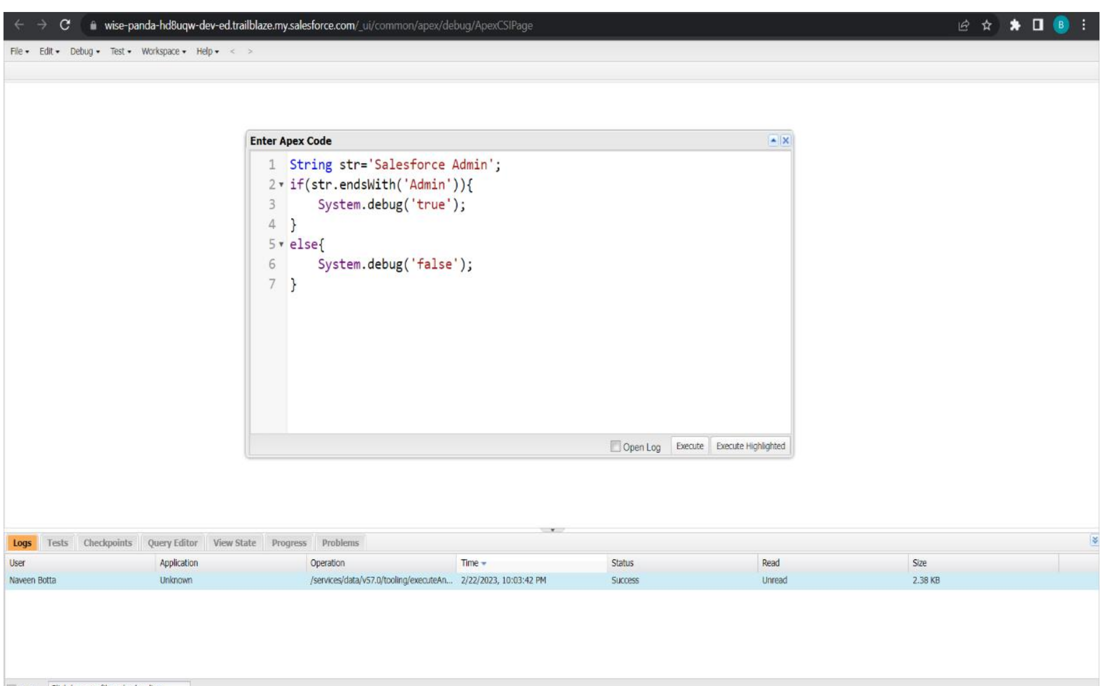
Use Execute Anonymous to define and execute the following code:

Developer Console

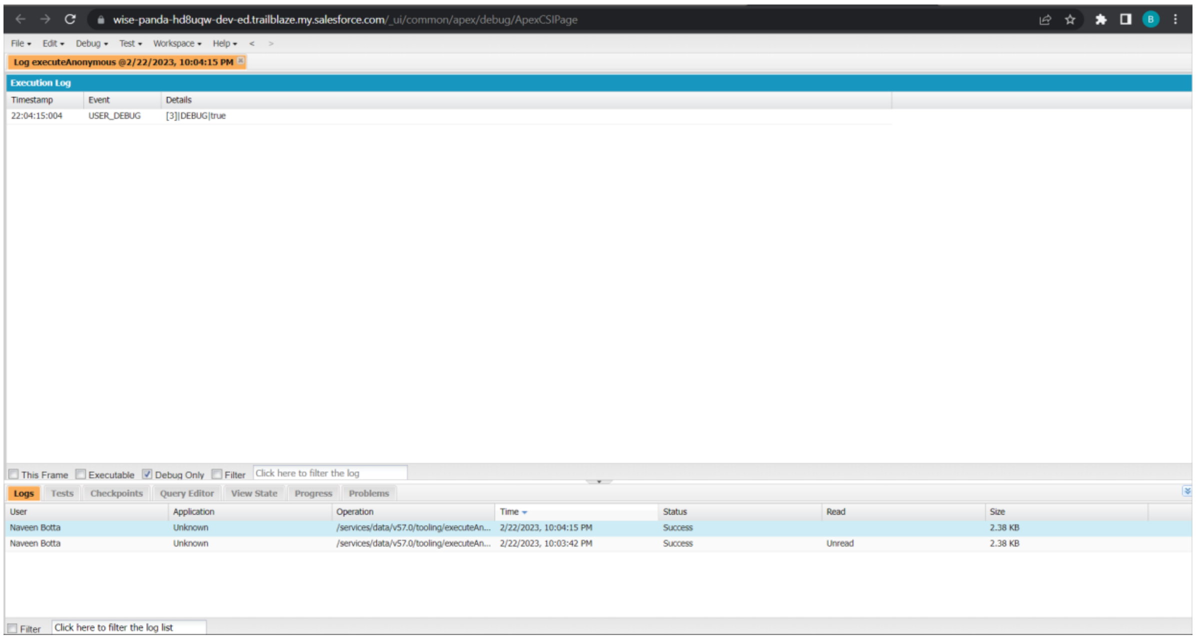


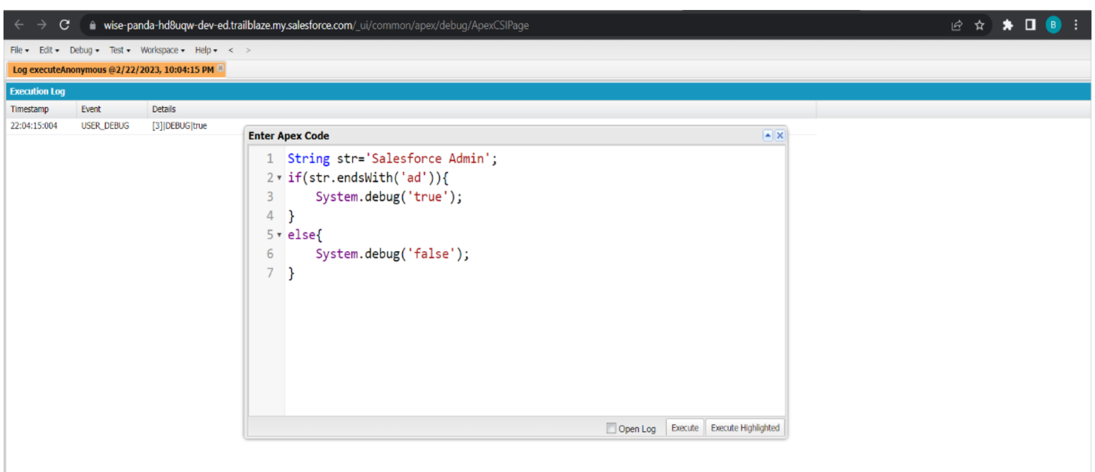
1. Define a String Variable & use string method 'endsWith' to display the output.

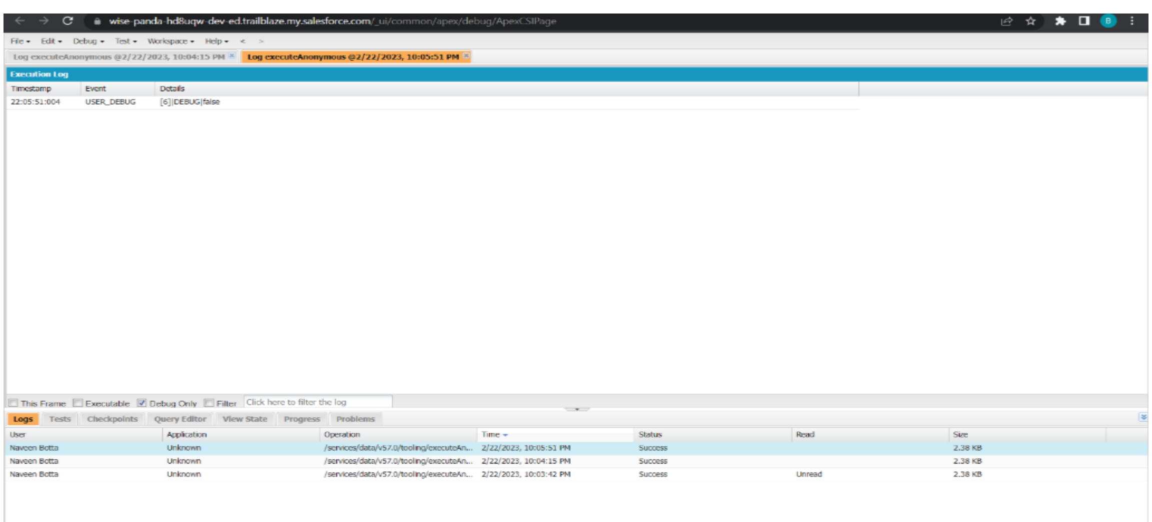
By clicking oh Debug and select open Anonymous window



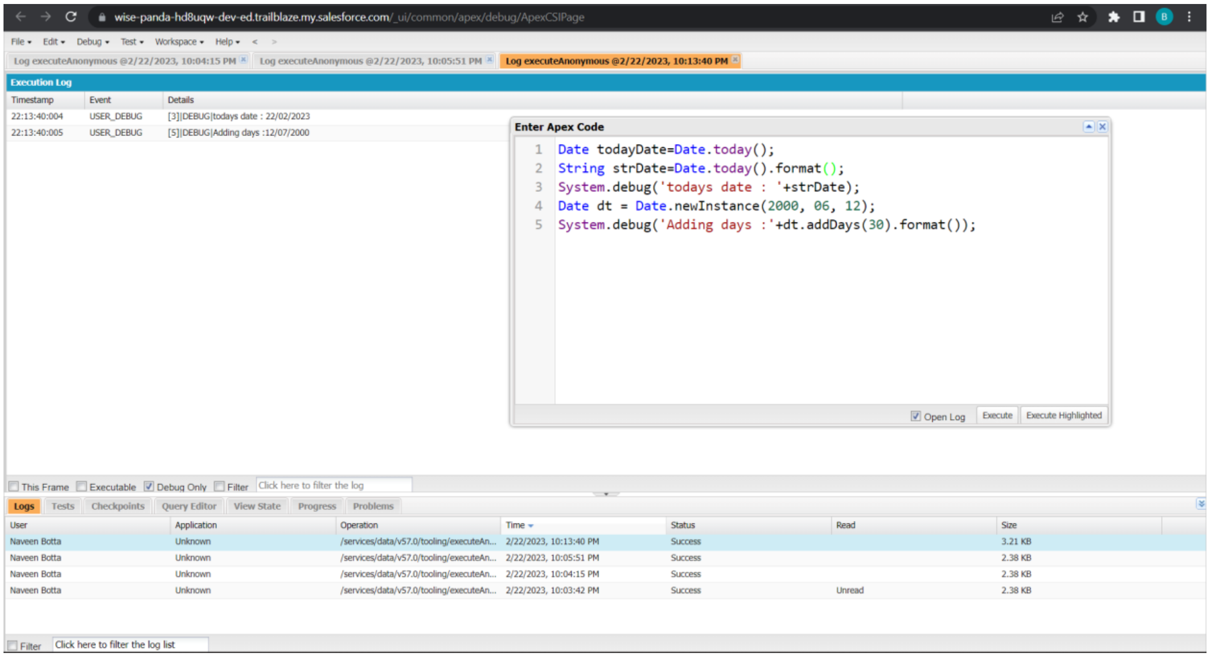
Output


wise-panda-hd8uqw-dev-ed.trailblaze.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage
File Edit Debug Test Workspace Help
Log executeAnonymous @2/22/2023, 10:04:15 PM
Execution Log
Timestamp Event Details
22:04:15:004 USER_DEBUG [3]|DEBUG|true
This Frame Executable Debug Only Filter Click here to filter the log
Logs Tests Checkpoints Query Editor View State Progress Problems
User Application Operation Time Status Read Size
Naveen Botta Unknown /services/data/v57.0/tooling/executeAn... 2/22/2023, 10:04:15 PM Success 2.38 KB
Naveen Botta Unknown /services/data/v57.0/tooling/executeAn... 2/22/2023, 10:03:42 PM Success Unread 2.38 KB
Filter Click here to filter the log list

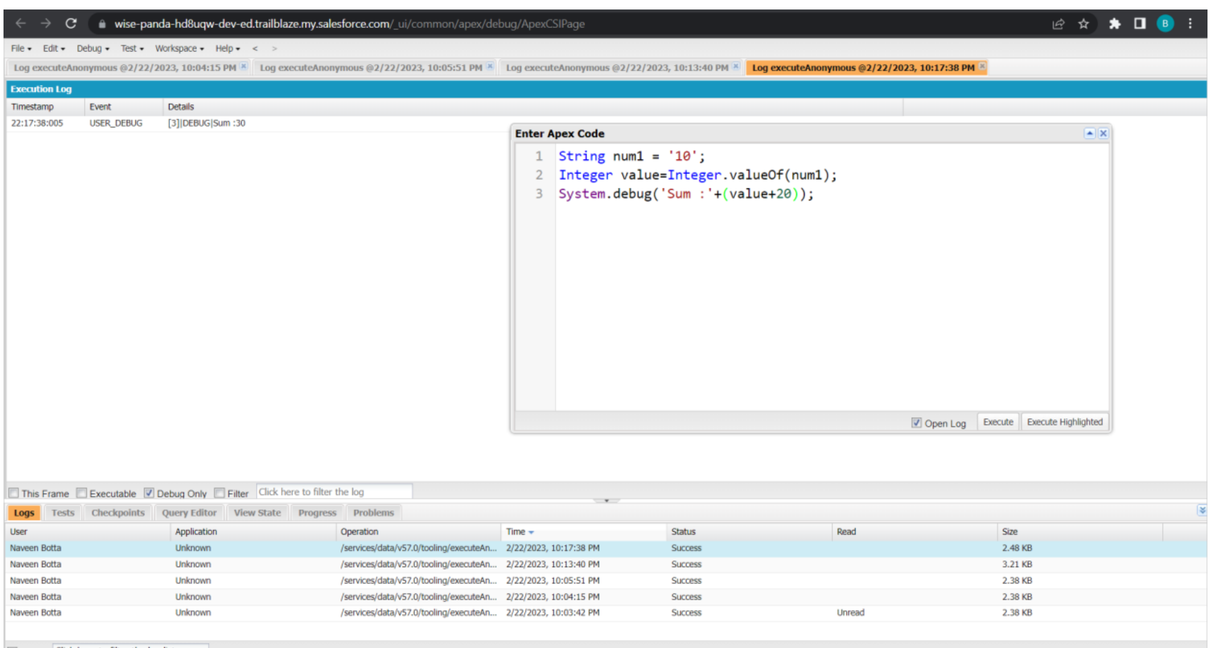

wise-panda-hd8uqw-dev-ed.trailblaze.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage
File Edit Debug Test Workspace Help
Log executeAnonymous @2/22/2023, 10:04:15 PM
Execution Log
Timestamp Event Details
22:04:15:004 USER_DEBUG [3]|DEBUG|true
Enter Apex Code
String str='Salesforce Admin';
if(str.endsWith('ad')){
System.debug('true');
}
else{
System.debug('false');
}
Open Log Execute Execute Highlighted


wise-panda-hd8uqw-dev-ed.trailblaze.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage
File Edit Debug Test Workspace Help
Log executeAnonymous @2/22/2023, 10:04:15 PM
Log executeAnonymous @2/22/2023, 10:05:51 PM
Execution Log
Timestamp Event Details
22:05:51:004 USER_DEBUG [6]|DEBUG|false
This Frame Executable Debug Only Filter Click here to filter the log
Logs Tests Checkpoints Query Editor View State Progress Problems
User Application Operation Time Status Read Size
Naveen Botta Unknown /services/data/v57.0/tooling/executeAn... 2/22/2023, 10:05:51 PM Success 2.38 KB
Naveen Botta Unknown /services/data/v57.0/tooling/executeAn... 2/22/2023, 10:04:15 PM Success 2.38 KB
Naveen Botta Unknown /services/data/v57.0/tooling/executeAn... 2/22/2023, 10:03:42 PM Success Unread 2.38 KB
Filter Click here to filter the log list

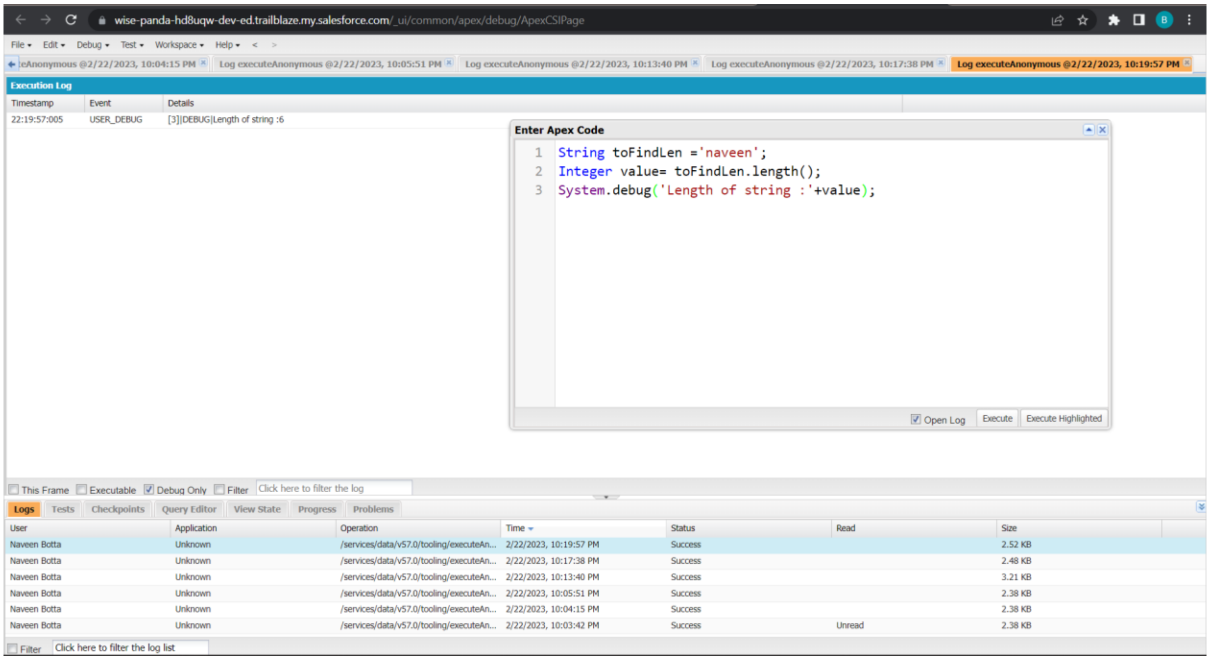
2. Define 2 Date type variables, use Date method today() & addDays(30) to display the output



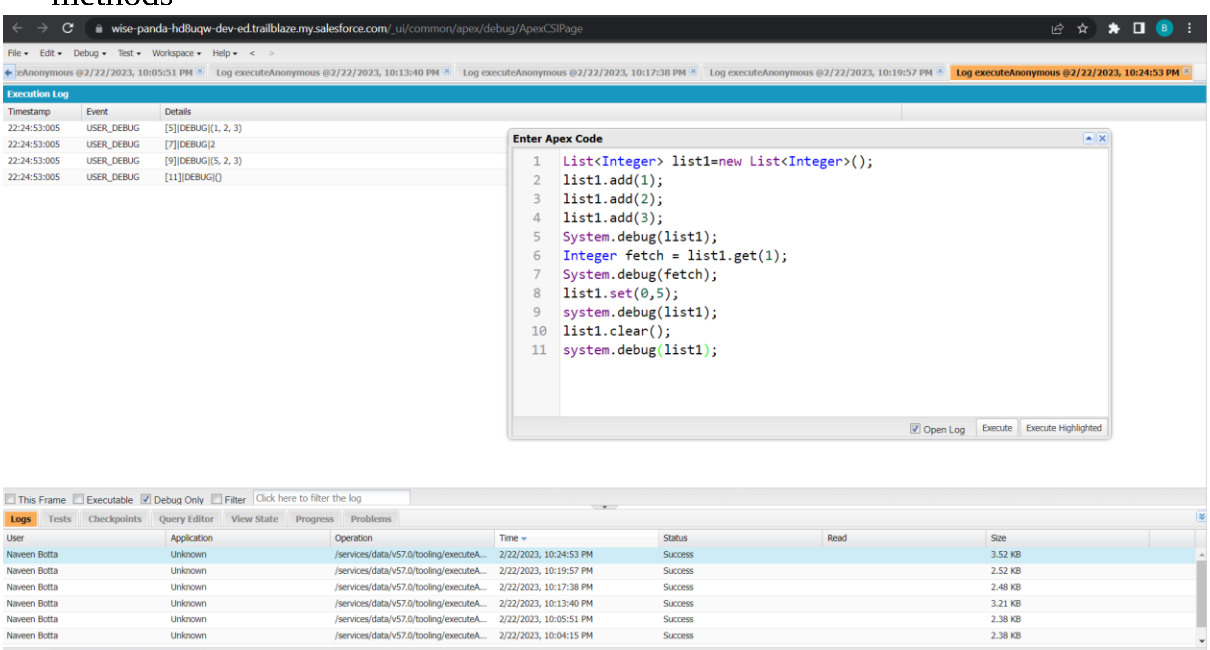
3. Display the output of an Integer variable from string '10' and then add 20 to it



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

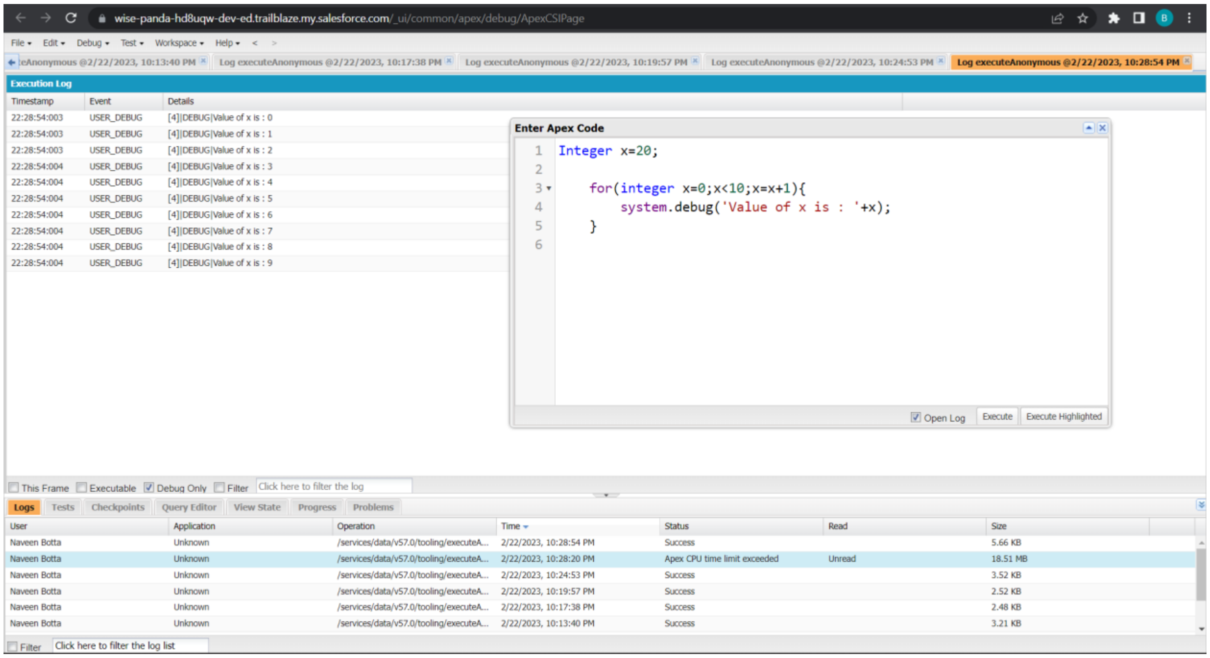


5. Define a List of integer and display the output using add(), get(), set(), clear(), methods



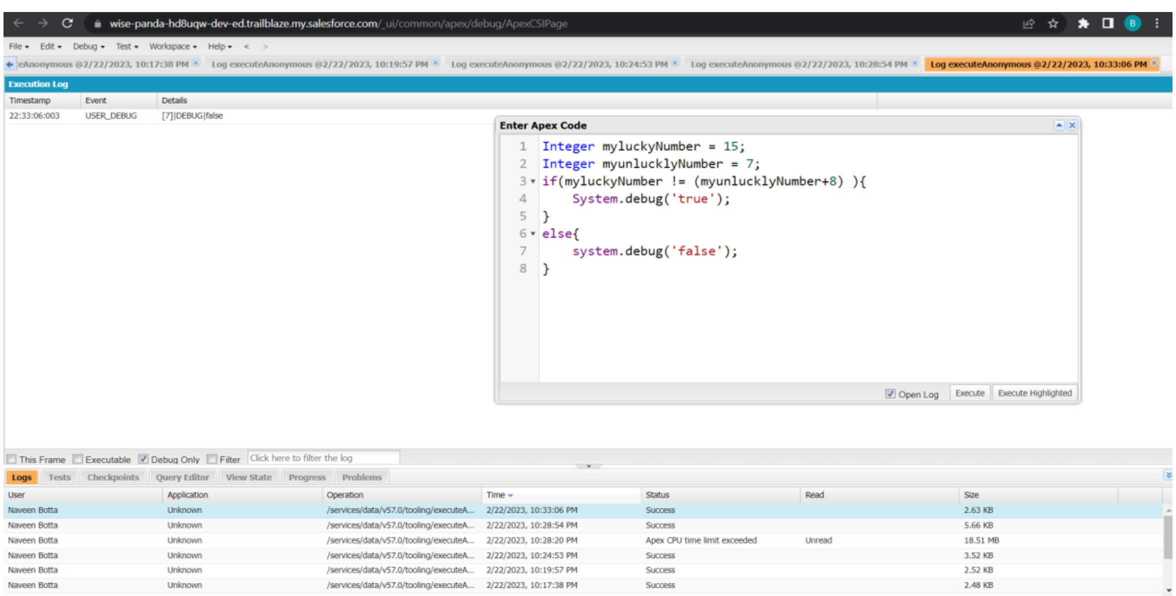
Exercise 2

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



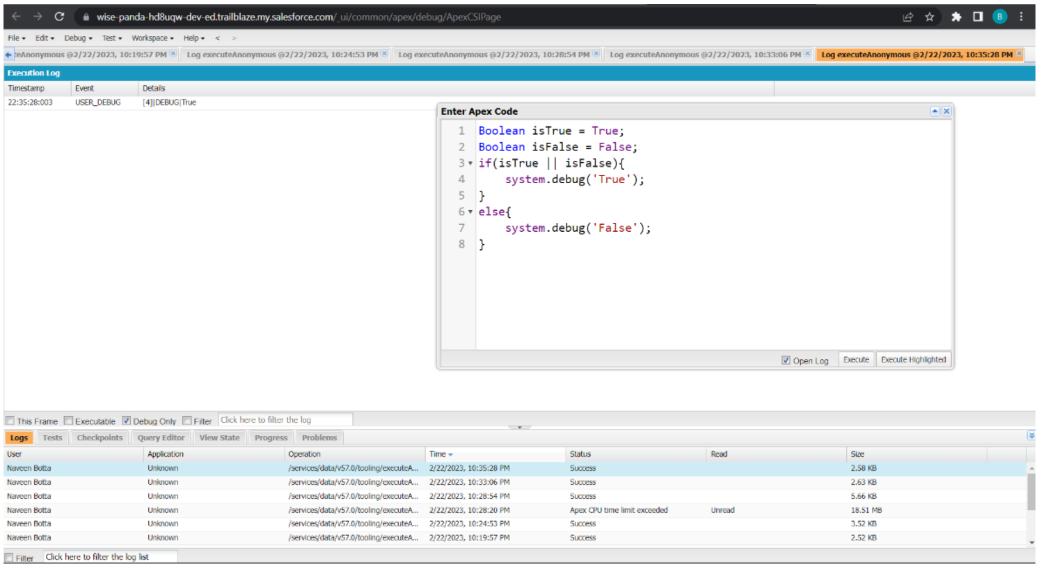
Exercise 3

Answer the following in True or False:
Integer myunlucklyNumber = 7;
Integer myluckyNumber = 15;→ myluckyNumber != myunlucklyNumber + 8.



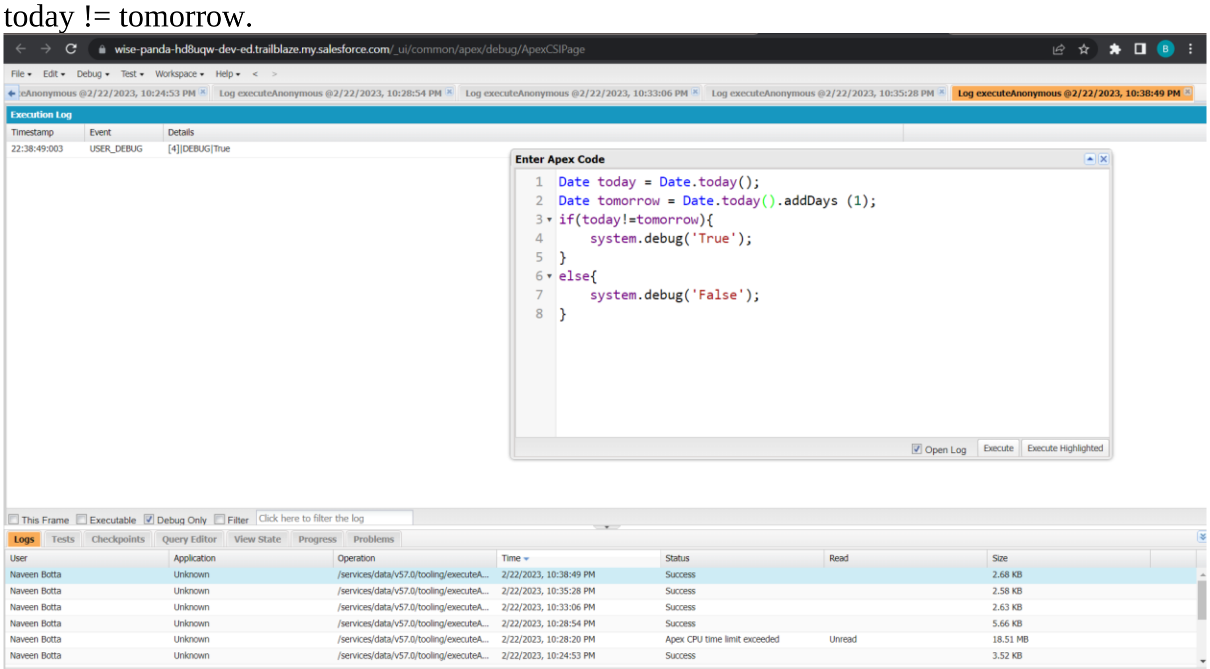
Exercise 4

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



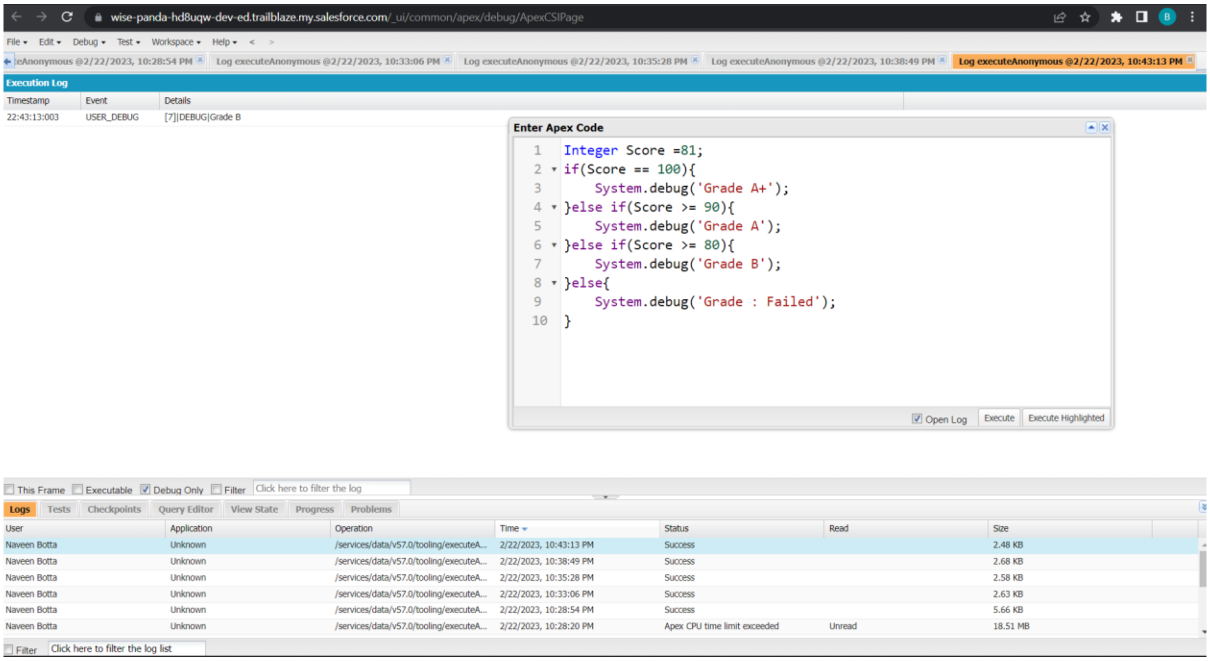
Exercise 5

Answer the following in True Or False:
Date tomorrow = Date.today().addDays(1);
Date today = Date.today();
today != tomorrow.



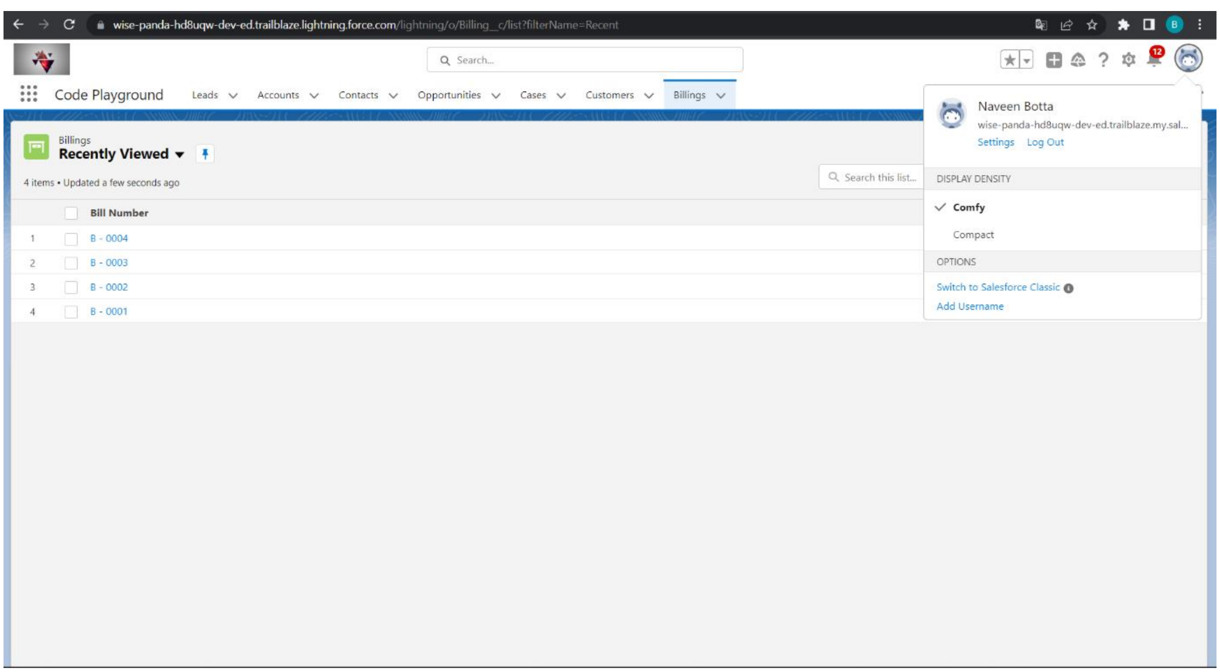
Exercise 6

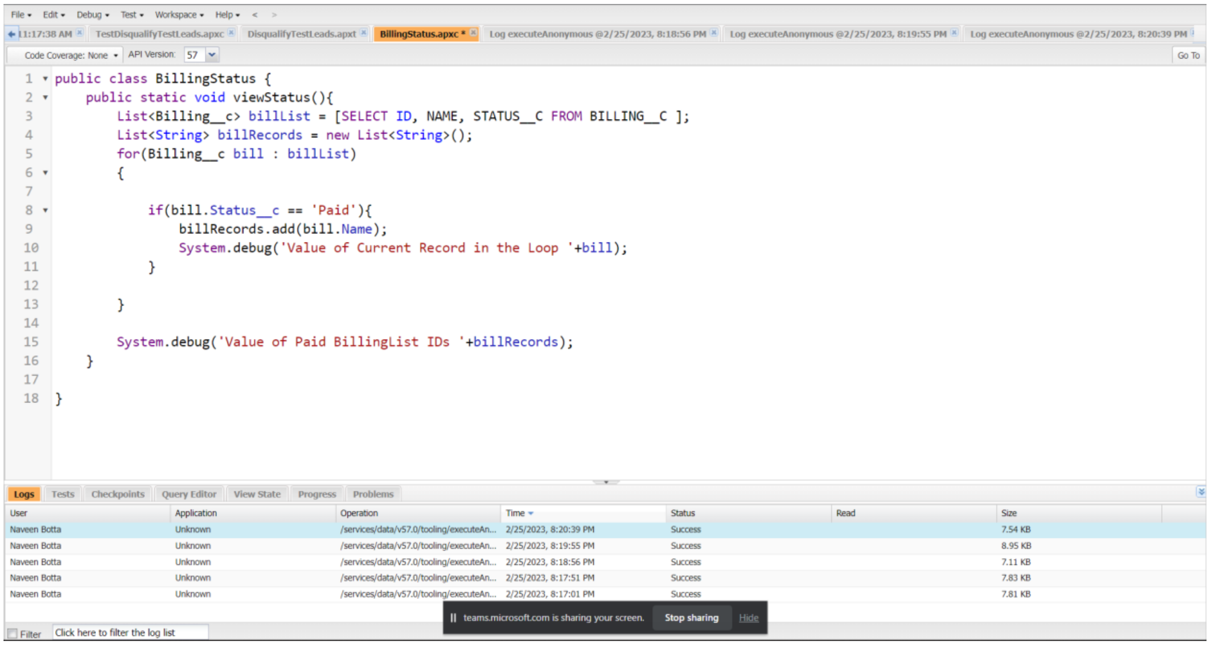
Write a program and execute to demo the use of "If..else if...else"



Exercise 7

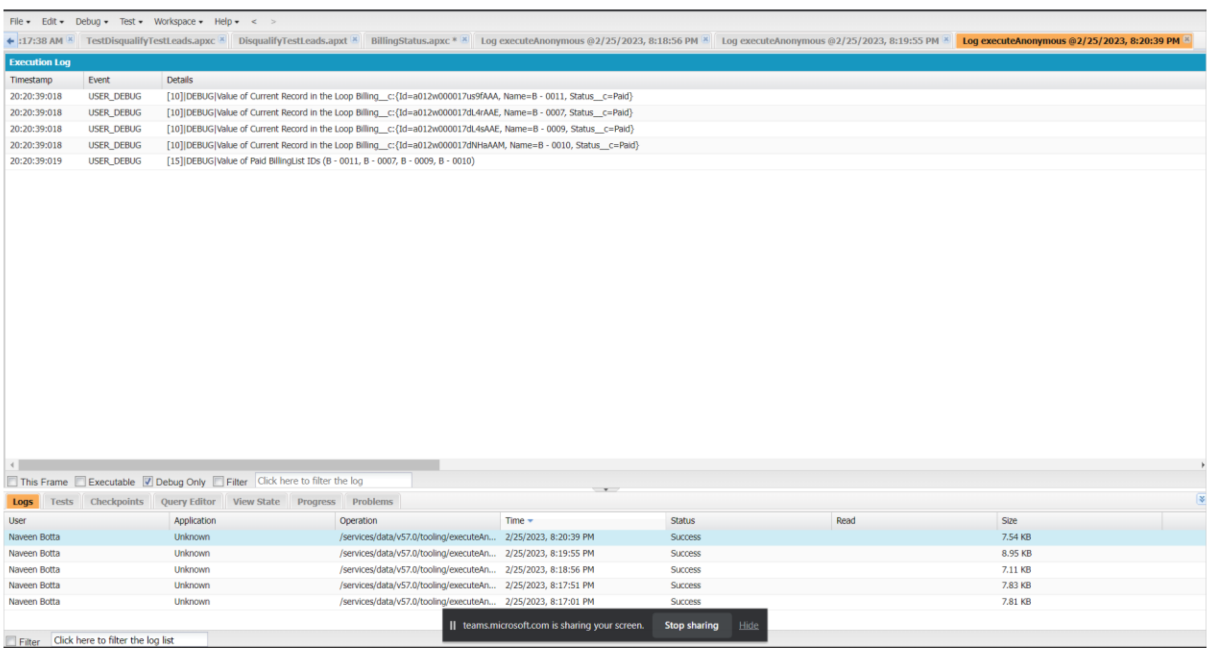
Write a program to execute and demo the use of "Apex – for Loop"





public class BillingStatus {
public static void viewStatus(){
List<Billing__c> billList = [SELECT ID, NAME, STATUS__C FROM BILLING__C];
List<String> billRecords = new List<String>();
for(Billing__c bill : billList)
{
if(bill.Status__c == 'Paid'){
billRecords.add(bill.Name);
System.debug('Value of Current Record in the Loop '+bill);
}
}
System.debug('Value of Paid BillingList IDs '+billRecords);
}
}

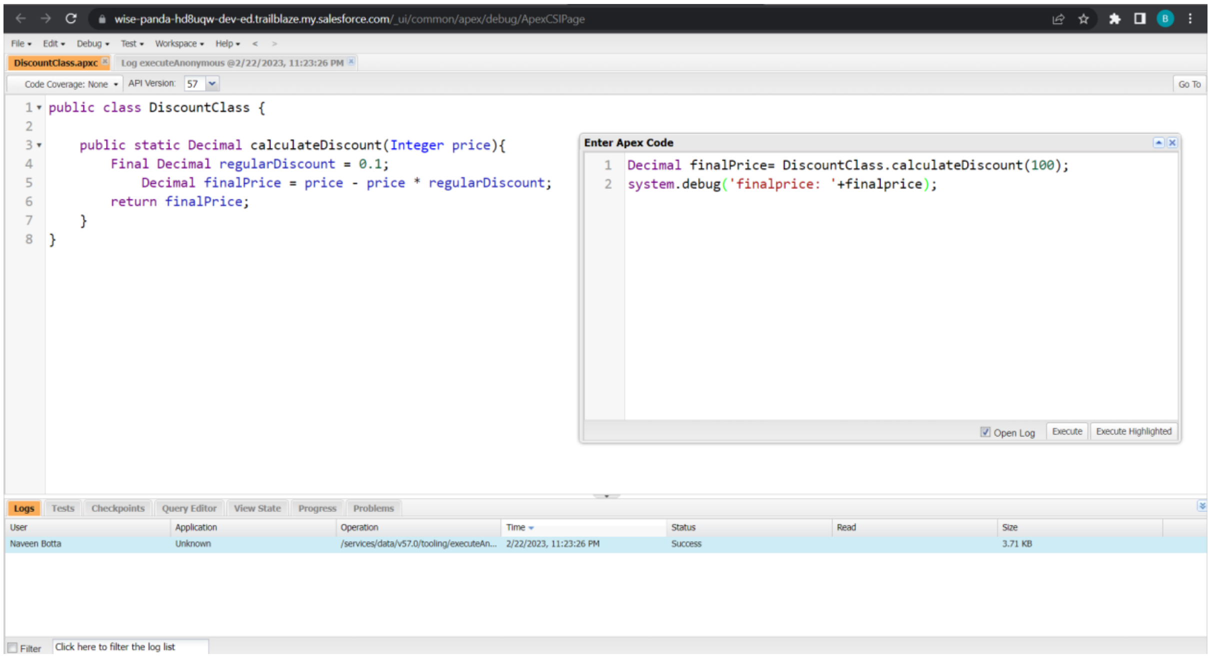
Output



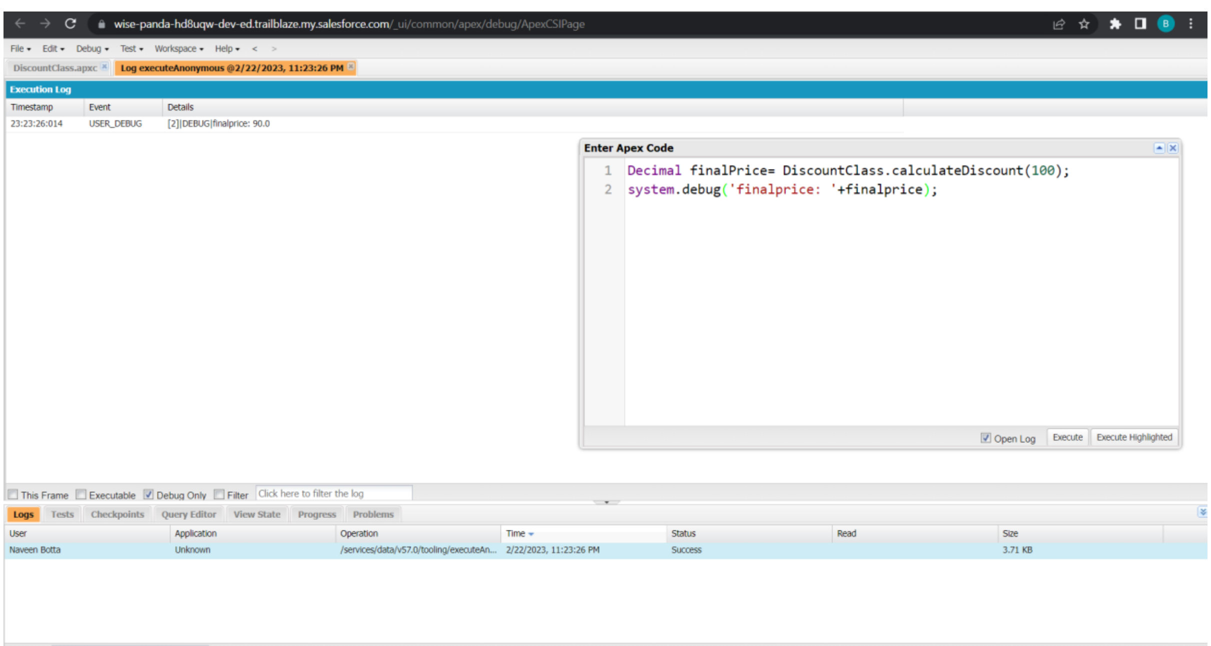
Execution Log
Timestamp Event Details
20:20:39:018 USER_DEBUG [10]|DEBUG|Value of Current Record in the Loop Billing__c:{Id=a012w000017us9fAAA, Name=B - 0011, Status__c=Paid}
20:20:39:018 USER_DEBUG [10]|DEBUG|Value of Current Record in the Loop Billing__c:{Id=a012w000017dL4rAAE, Name=B - 0007, Status__c=Paid}
20:20:39:018 USER_DEBUG [10]|DEBUG|Value of Current Record in the Loop Billing__c:{Id=a012w000017dL4sAAE, Name=B - 0009, Status__c=Paid}
20:20:39:018 USER_DEBUG [10]|DEBUG|Value of Current Record in the Loop Billing__c:{Id=a012w000017dNHaAAM, Name=B - 0010, Status__c=Paid}
20:20:39:019 USER_DEBUG [15]|DEBUG|Value of Paid BillingList IDs (B - 0011, B - 0007, B - 0009, B - 0010)

Exercise 8

Write a Class to demo the use of Constants in Apex

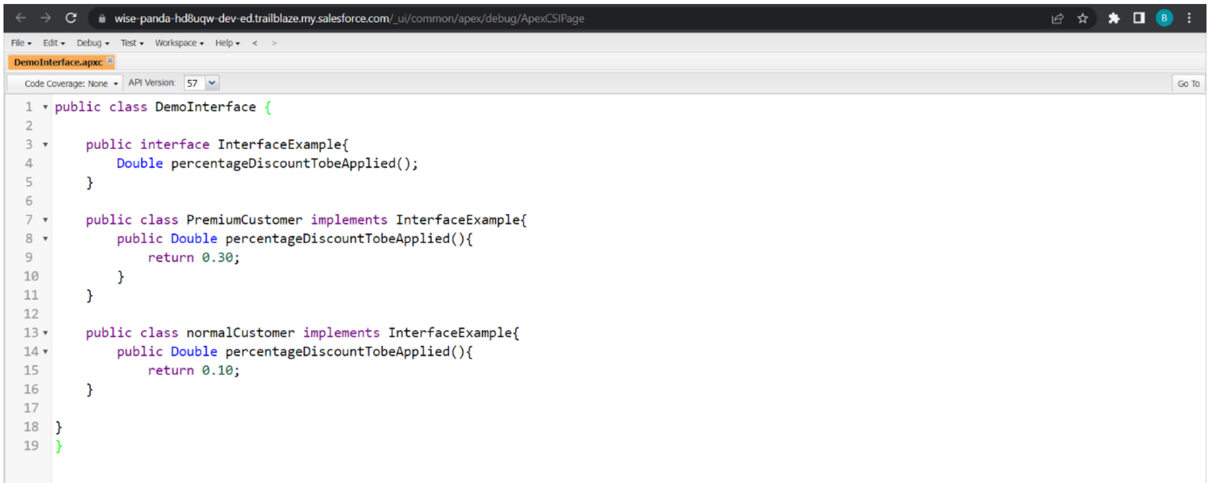


Output



Exercise 9

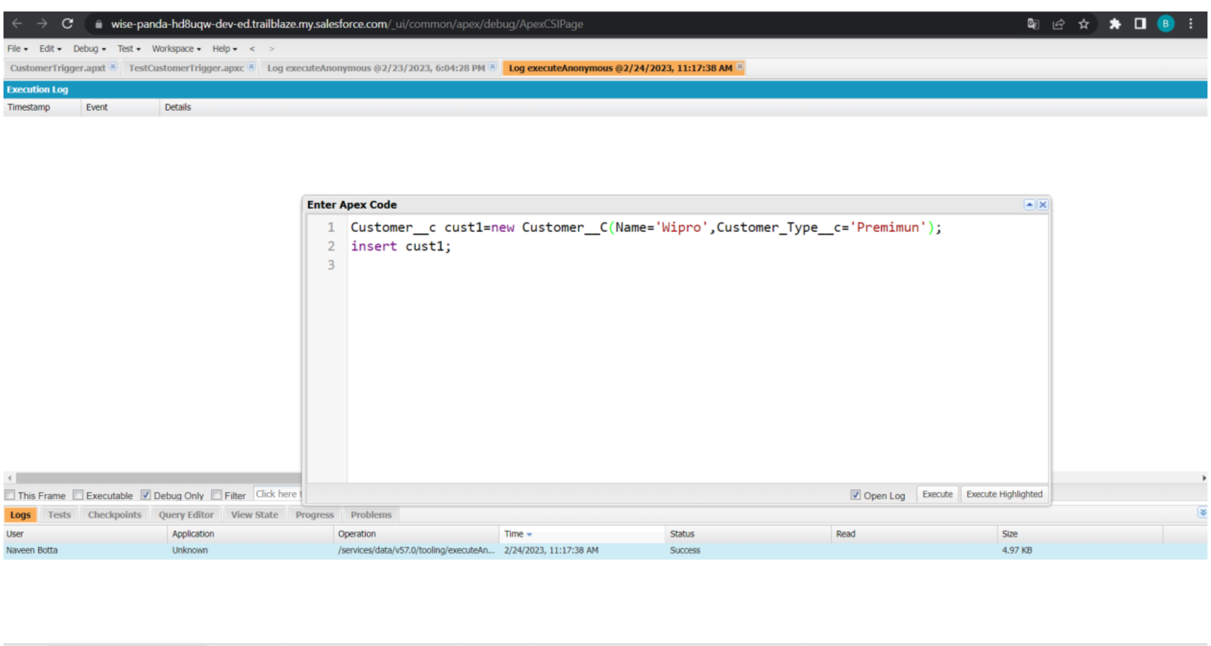
Write a Class to demo the use of Interface in Apex



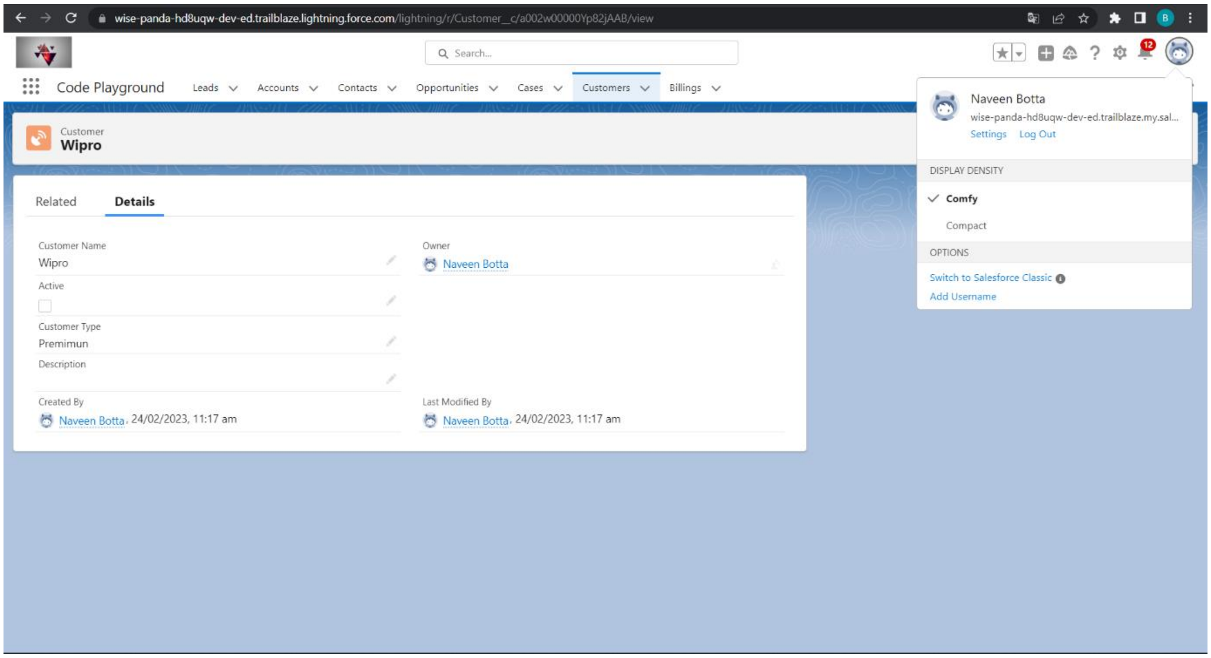
Exercise 10

Demo on DML Insert Operation Using Database methods

1. Insert a Customer Record First using simple DML Statement

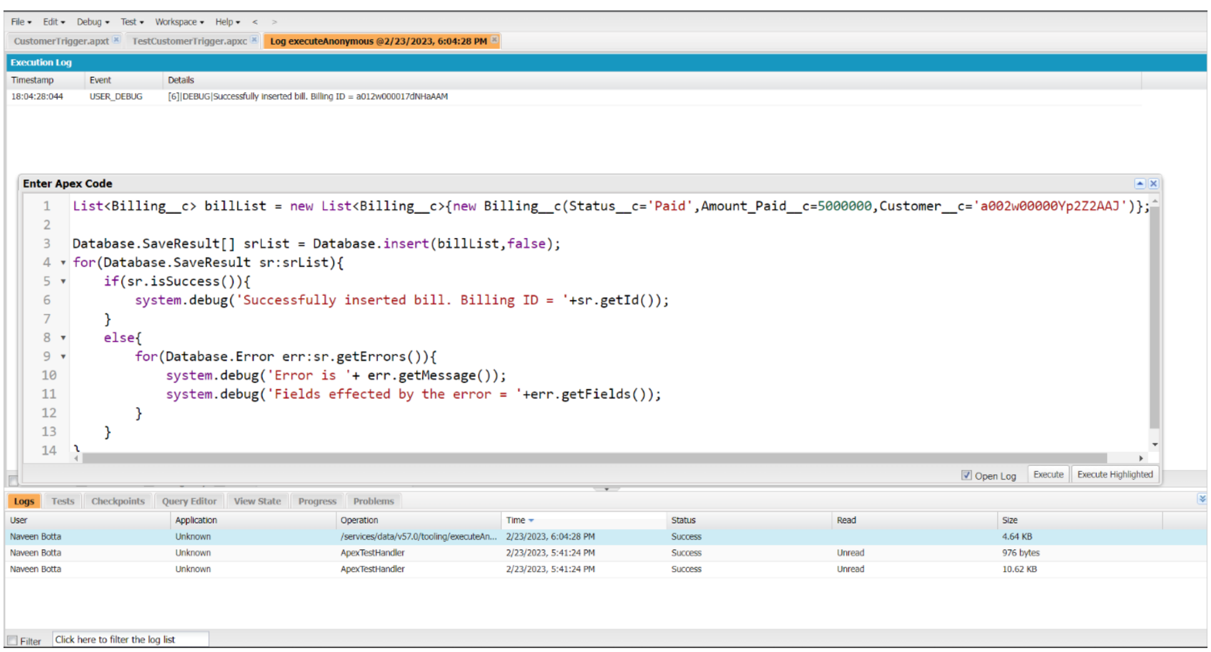


Result in UI record inserted into customer.

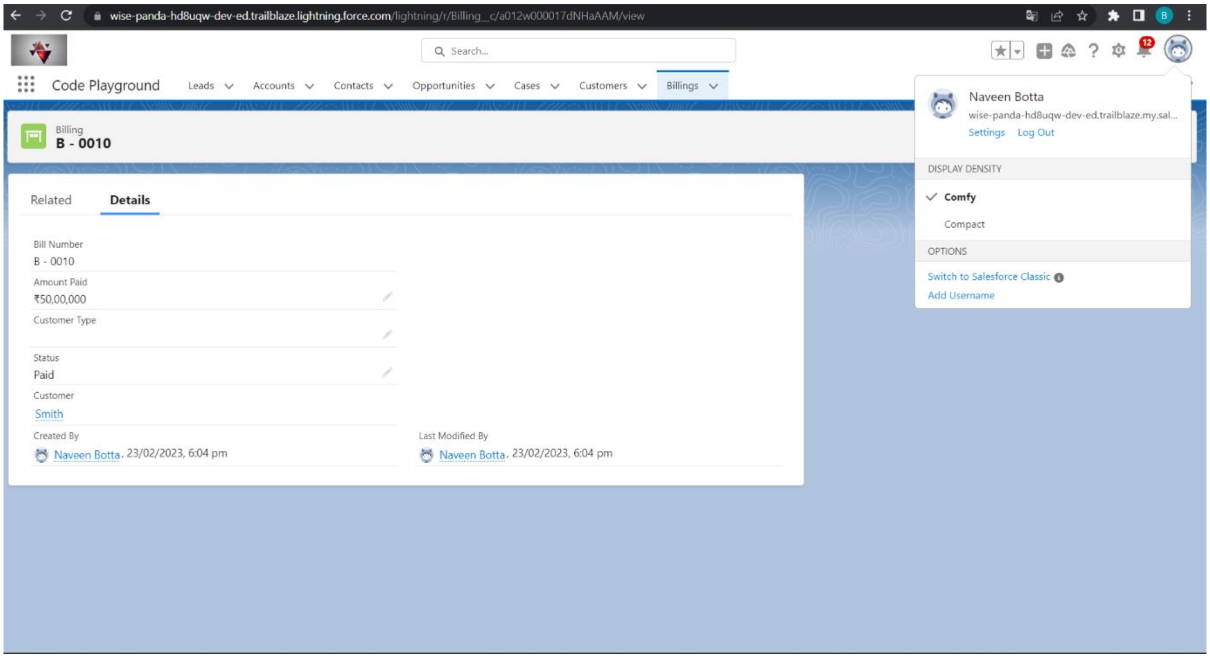


2. Insert Billing record using Database methods

Here use record id to insert customer.

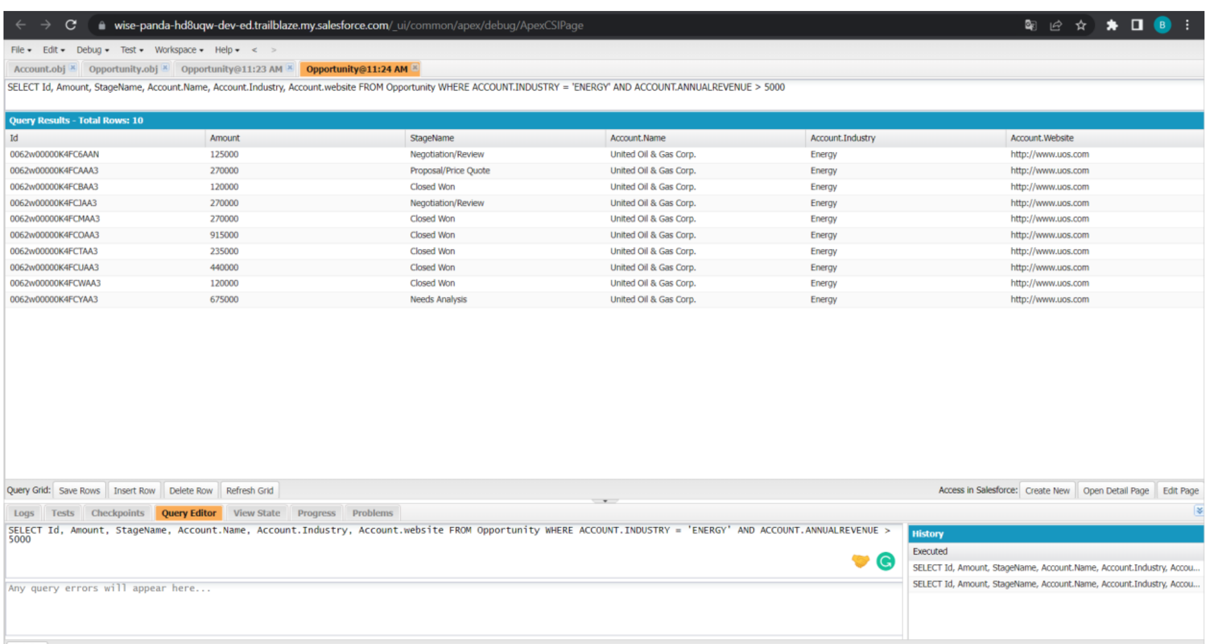


Output in UI



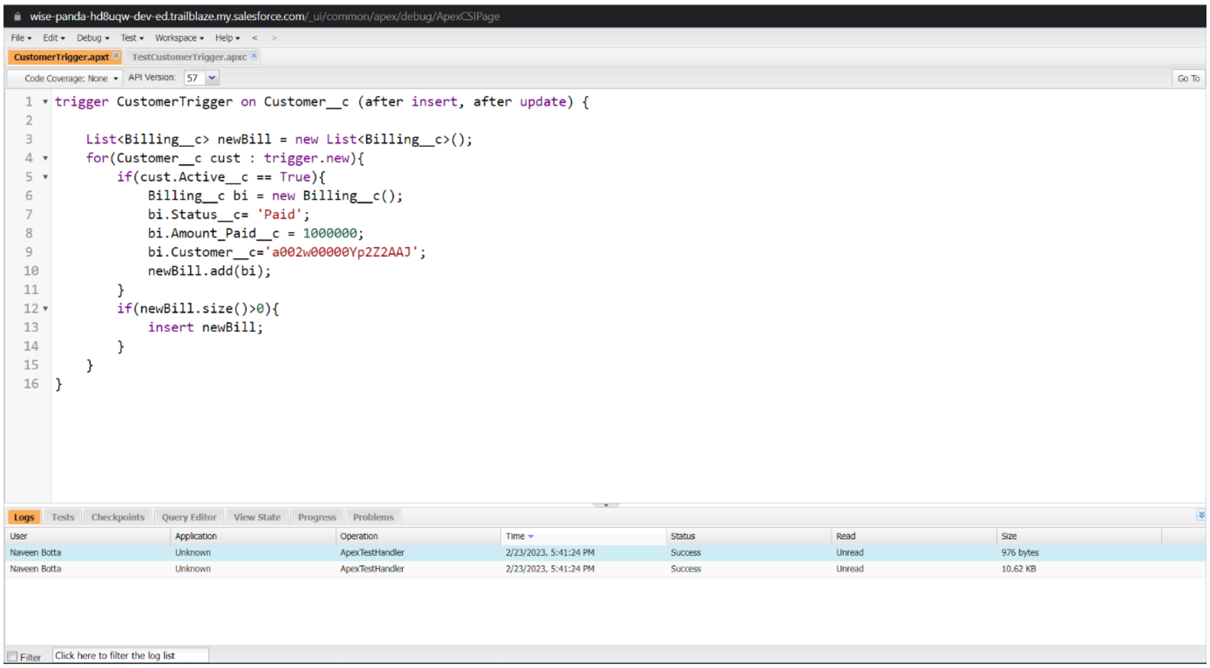
Exercise 11

Write and execute SOQL queries from Developer Console
Display ID, Amount, Stage, Account Name, Account Industry, Account Website
From Opportunity
AND “Account Annual Revenue > 5000”
Add a Where Clause “Account Industry = Energy”

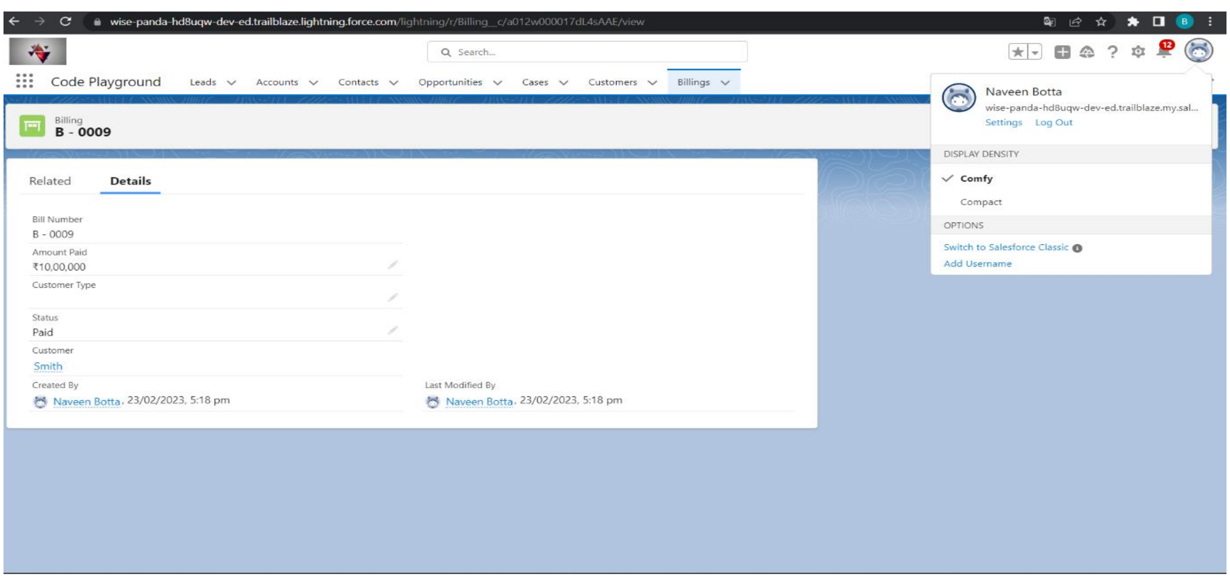


Exercise 12

Write an Apex Trigger, Name = CustomerTrigger.
Create a Billing Record when on Customer Object the 'Status' field changes to Active from Inactive.
Billing “Status” must be: Paid, Amount Paid = 1000000
Perform the DML on a List.

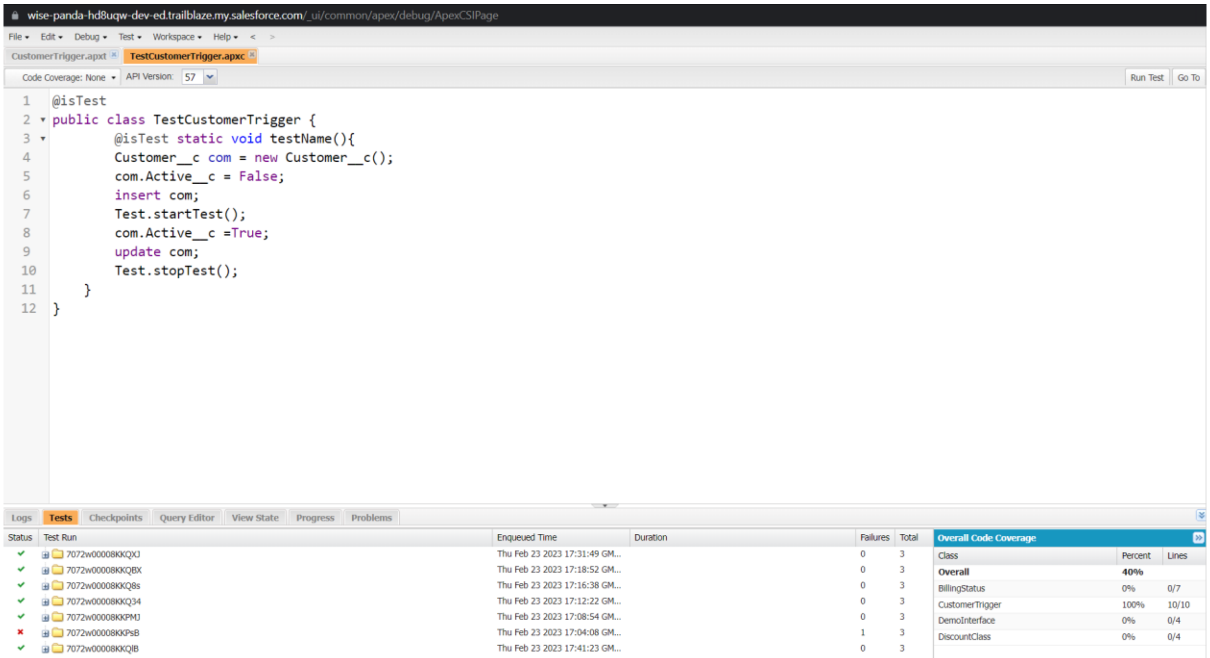


A new record is created when we created a customer record with active is true.



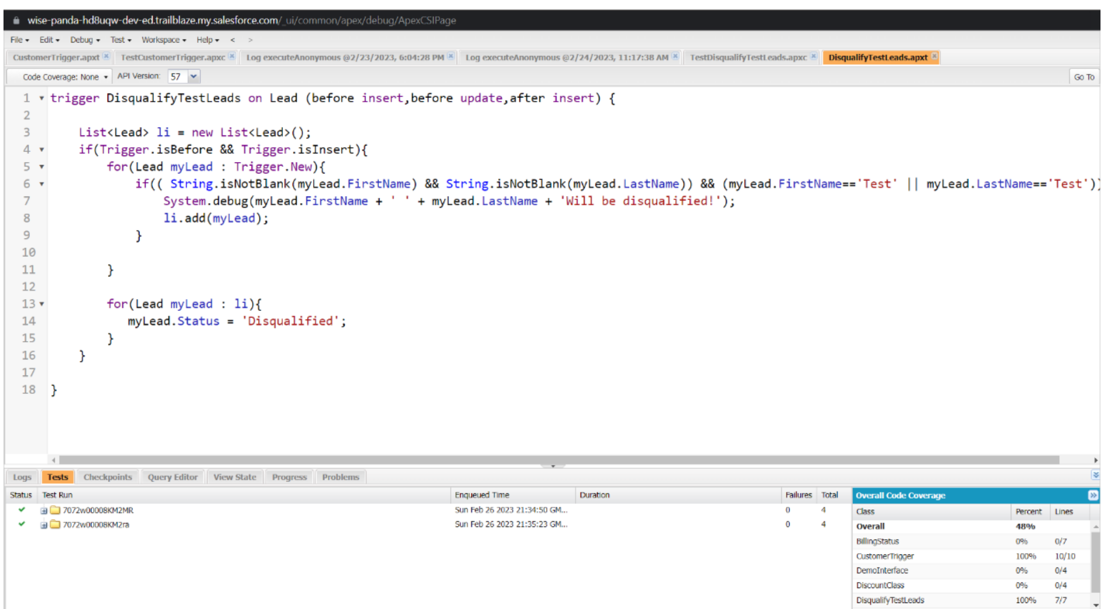
Exercise 13

Write a Test Class for CustomerTrigger.
Create the Data for the Customer custom Object
Use Test.startTest() & Test.stopTest().
Use assert statement to validate the output, Test Class must have full code coverage.



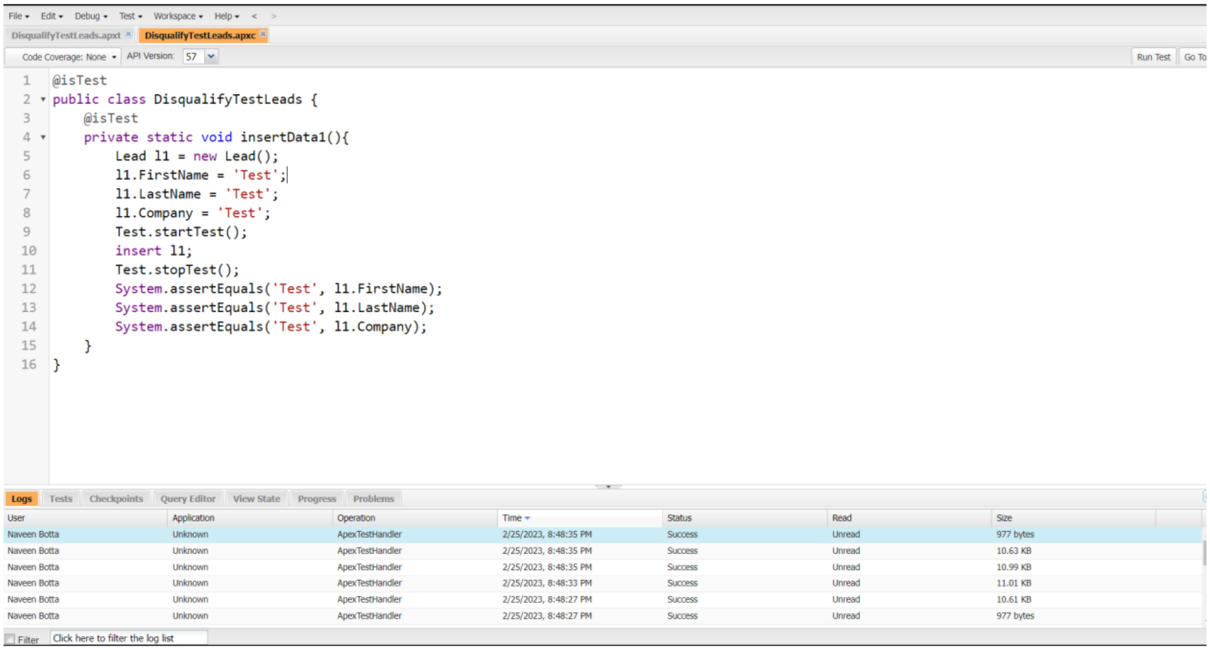
```
@isTest
public class TestCustomerTrigger {
        @isTest static void testName(){
        Customer__c com = new Customer__c();
        com.Active__c = False;
        insert com;
        Test.startTest();
        com.Active__c =True;
        update com;
        Test.stopTest();
    }
}
```

Exercise 14



```
trigger DisqualifyTestLeads on Lead (before insert,before update,after insert) {

    List<Lead> li = new List<Lead>();
    if(Trigger.isBefore && Trigger.isInsert){
        for(Lead myLead : Trigger.New){
            if(( String.isNotBlank(myLead.FirstName) && String.isNotBlank(myLead.LastName)) && (myLead.FirstName=='Test' || myLead.LastName=='Test')
                System.debug(myLead.FirstName + ' ' + myLead.LastName + 'Will be disqualified!');
                li.add(myLead);
            }

        }

        for(Lead myLead : li){
           myLead.Status = 'Disqualified';
        }
    }

}
```

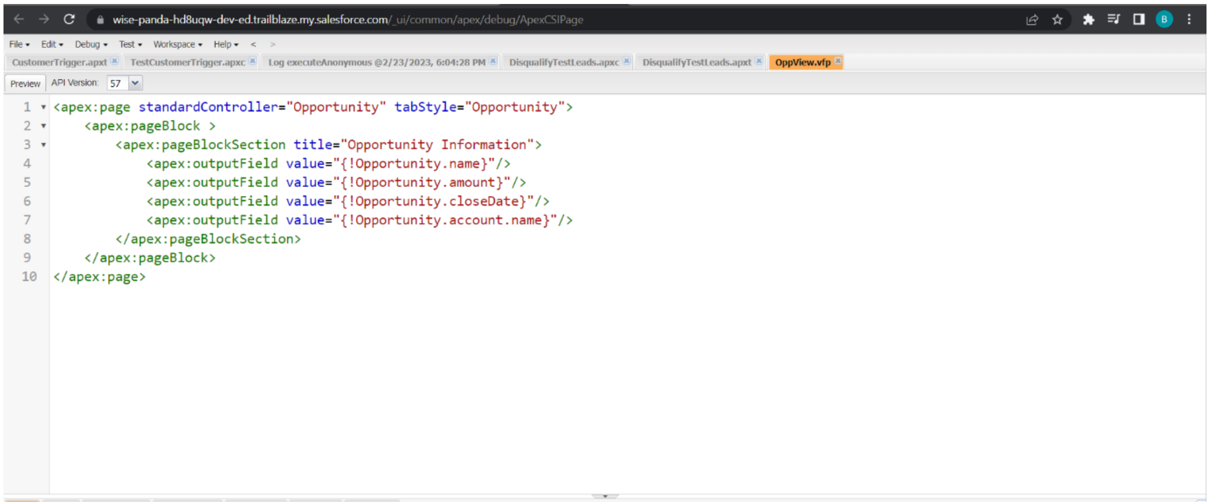
Exercise 15




```
@isTest
public class DisqualifyTestLeads {
    @isTest
    private static void insertData1(){
        Lead l1 = new Lead();
        l1.FirstName = 'Test';
        l1.LastName = 'Test';
        l1.Company = 'Test';
        Test.startTest();
        insert l1;
        Test.stopTest();
        System.assertEquals('Test', l1.FirstName);
        System.assertEquals('Test', l1.LastName);
        System.assertEquals('Test', l1.Company);
    }
}
```

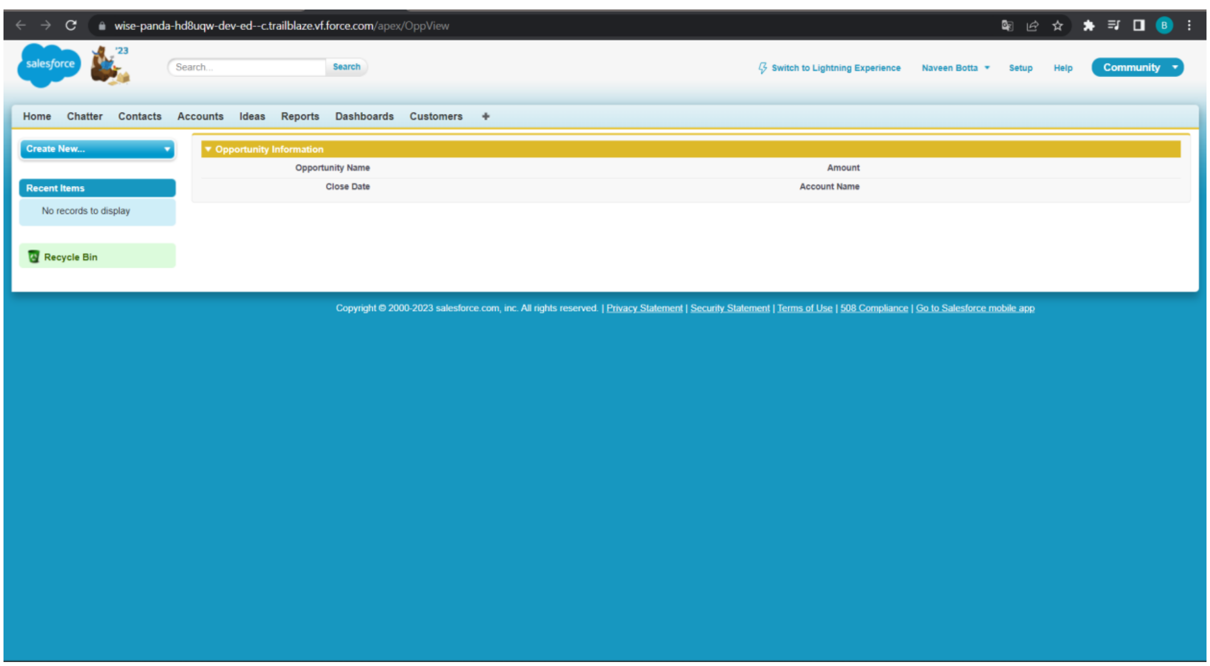
User	Application	Operation	Time	Status	Read	Size
Naveen Botta	Unknown	ApexTestHandler	2/25/2023, 8:48:35 PM	Success	Unread	977 bytes
Naveen Botta	Unknown	ApexTestHandler	2/25/2023, 8:48:35 PM	Success	Unread	10.63 KB
Naveen Botta	Unknown	ApexTestHandler	2/25/2023, 8:48:35 PM	Success	Unread	10.99 KB
Naveen Botta	Unknown	ApexTestHandler	2/25/2023, 8:48:33 PM	Success	Unread	11.01 KB
Naveen Botta	Unknown	ApexTestHandler	2/25/2023, 8:48:27 PM	Success	Unread	10.61 KB
Naveen Botta	Unknown	ApexTestHandler	2/25/2023, 8:48:27 PM	Success	Unread	977 bytes

Exercise 16

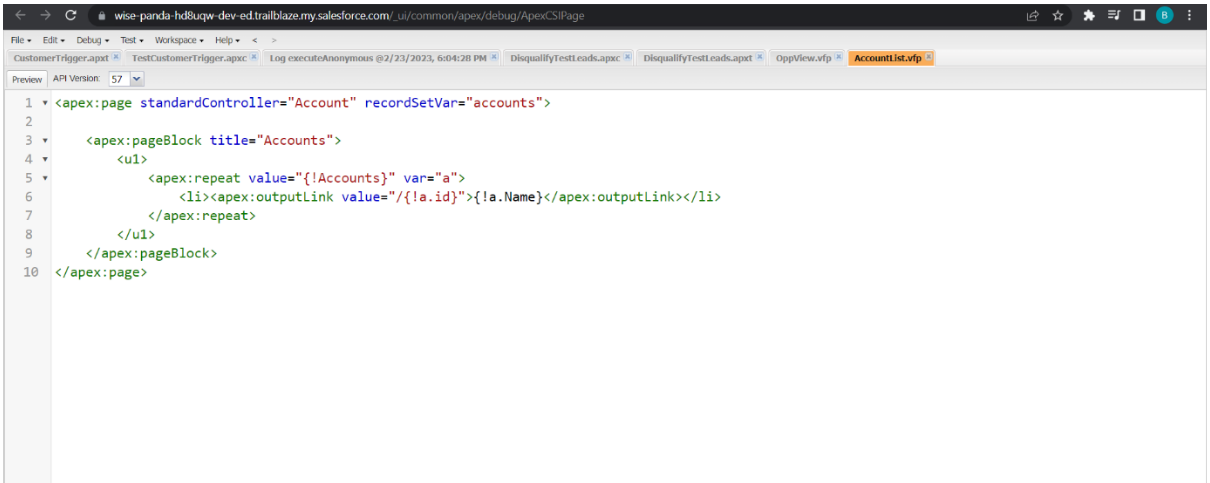


```
<apex:page standardController="Opportunity" tabStyle="Opportunity">
    <apex:pageBlock >
        <apex:pageBlockSection title="Opportunity Information">
            <apex:outputField value="{!Opportunity.name}"/>
            <apex:outputField value="{!Opportunity.amount}"/>
            <apex:outputField value="{!Opportunity.closeDate}"/>
            <apex:outputField value="{!Opportunity.account.name}"/>
        </apex:pageBlockSection>
    </apex:pageBlock>
</apex:page>
```

Output in Visualforce Page

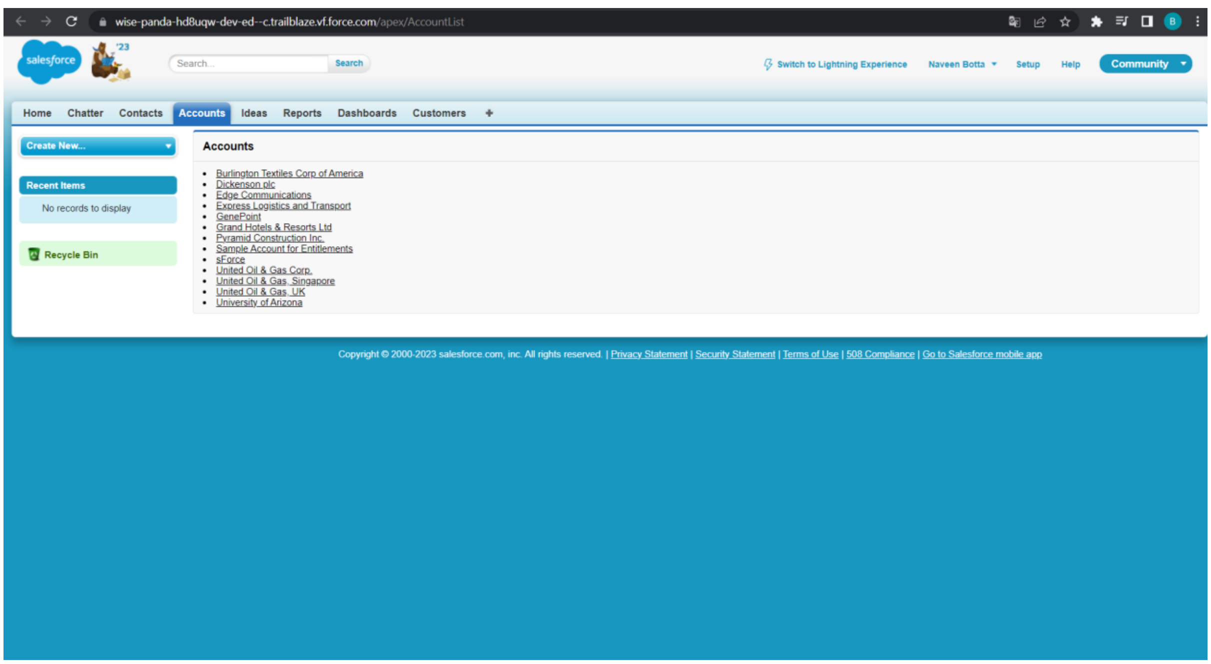


Exercise 17

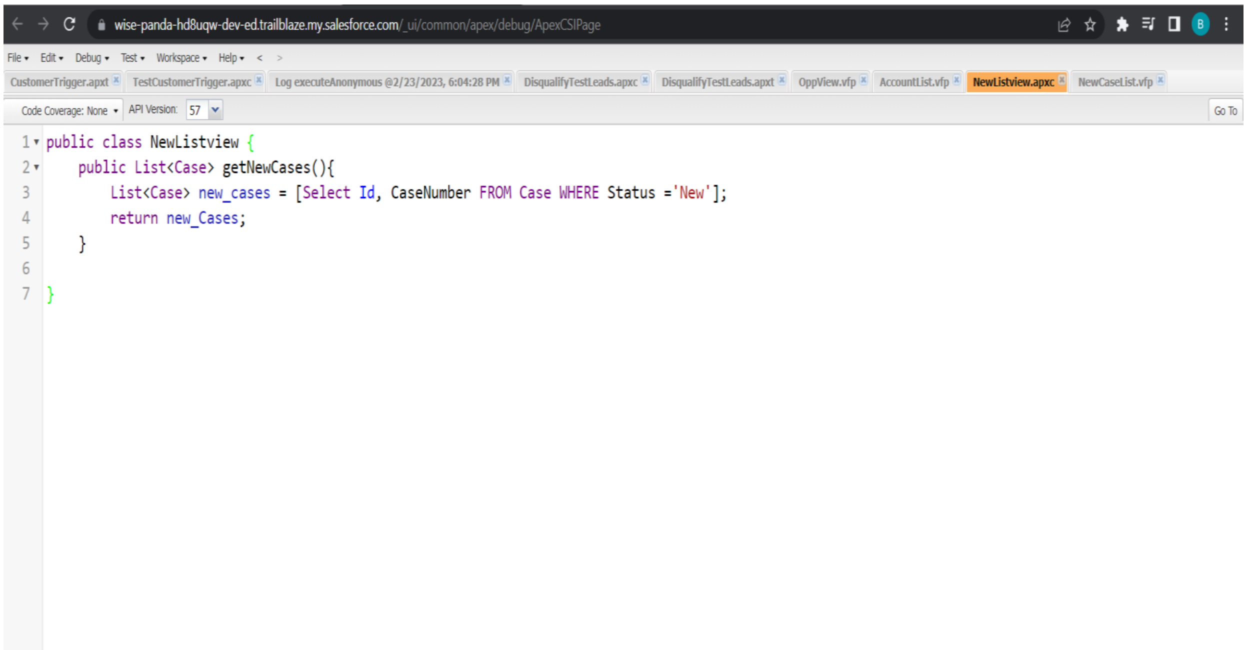


```
<apex:page standardController="Account" recordSetVar="accounts">

    <apex:pageBlock title="Accounts">
        <ul>
            <apex:repeat value="{!Accounts}" var="a">
                <li><apex:outputLink value="/{!a.id}">{!a.Name}</apex:outputLink></li>
            </apex:repeat>
        </ul>
    </apex:pageBlock>
</apex:page>
```

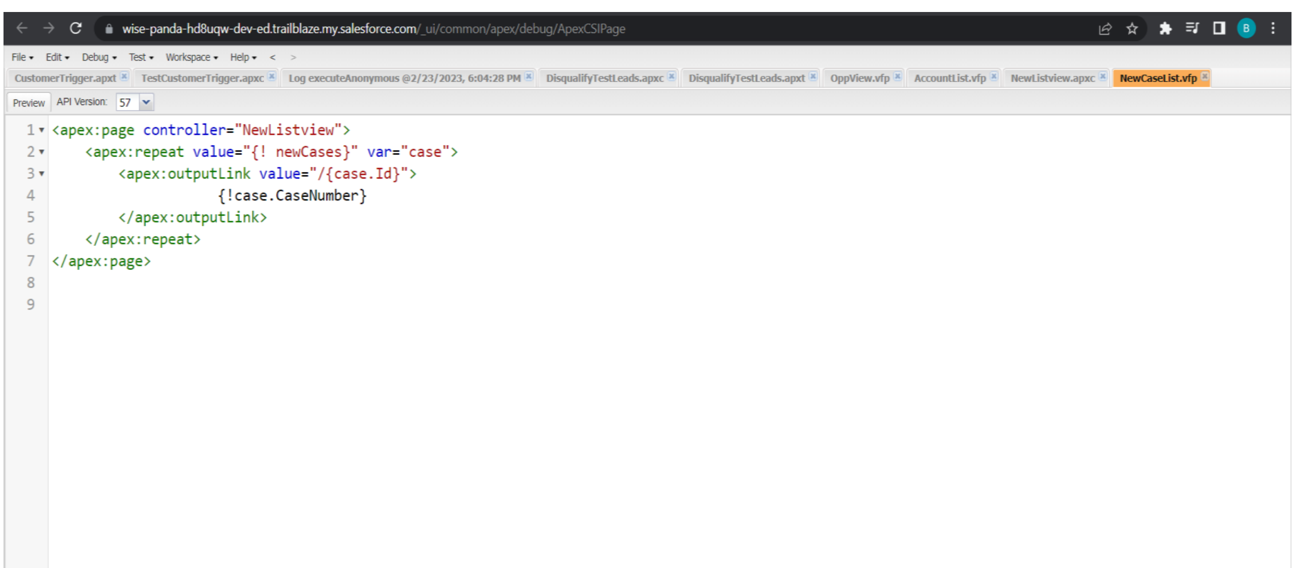
Output in Visualforce Page



Exercise 18

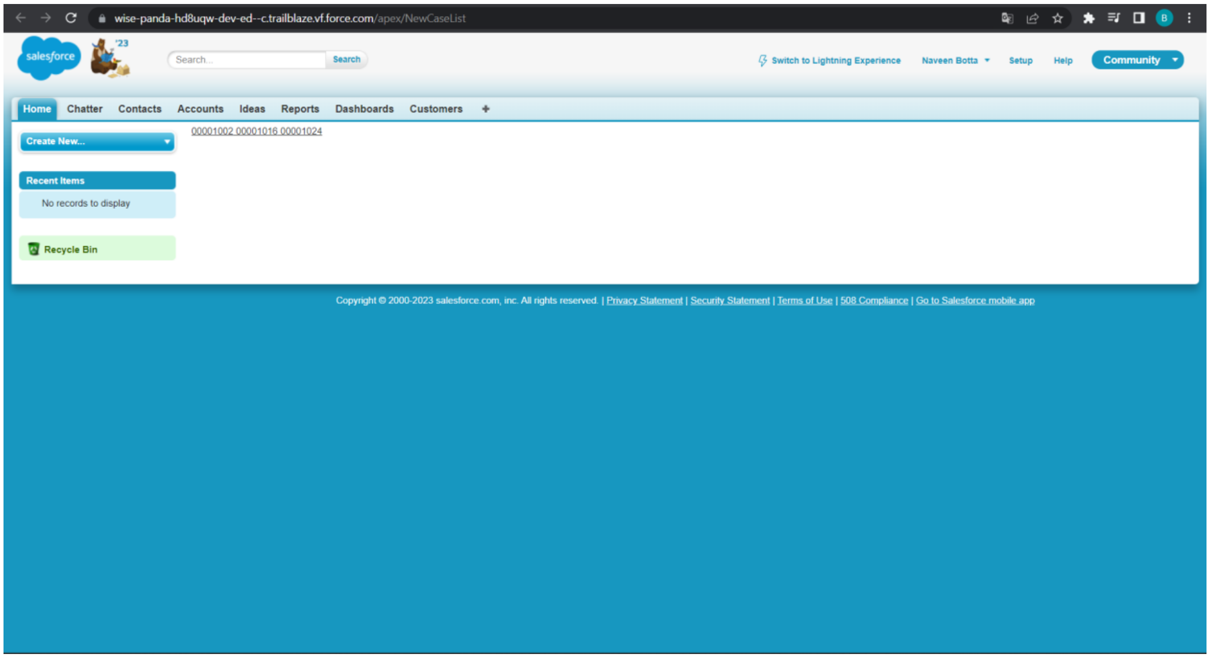


```
public class NewListview {
    public List<Case> getNewCases(){
        List<Case> new_cases = [Select Id, CaseNumber FROM Case WHERE Status ='New'];
        return new_Cases;
    }

}
```



```
<apex:page controller="NewListview">
    <apex:repeat value="{! newCases}" var="case">
        <apex:outputLink value="/{case.Id}">
                    {!case.CaseNumber}
        </apex:outputLink>
    </apex:repeat>
</apex:page>
```

Output


wise-panda-hd8uqw-dev-ed--c.trailblaze.vf.force.com/apex/NewCaseList
salesforce
'23
Search...
Search
Switch to Lightning Experience
Naveen Botta
Setup
Help
Community
Home
Chatter
Contacts
Accounts
Ideas
Reports
Dashboards
Customers
+
Create New...
00001002 00001016 00001024
Recent Items
No records to display
Recycle Bin
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References

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2. Developer Guide: Salesforce Developers

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2. Salesforce - ADX201 Administrative Essentials for New Admins in Lightning Experience (SFADX201) (qa.com)

3. Understand the Salesforce Architecture Unit | Salesforce Trailhead