



Capstone Project Report  
On  
**“Salesforce application”**

Submitted by:

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**Batch** WIP-SF-13

**LMS Id:** MGSA\_527

**Date:** 28/02/2023

## Table of contents

1. Abstract.....	
2. Introduction.....	
3. Flow of the project.....	
4. Software Requirements.....	
5. Screen shots.....	
6.Future enhancements.....	
7. References.....	

## **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.

In here we work on how to Set up the Company Profile, Configuring the user Interface, setting up Activities and Calendars, Configuring Search Settings, Setting up Chatter Groups, Mobile Access with salesforce.

## 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.

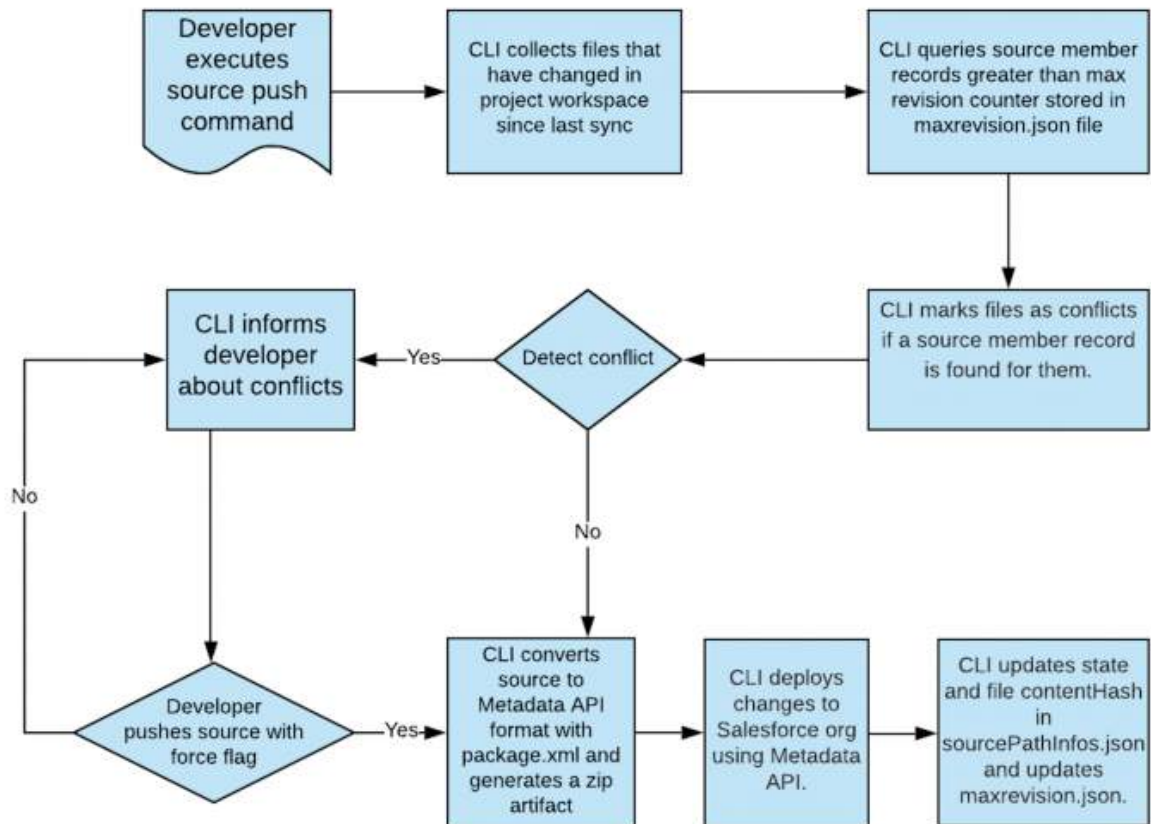
Salesforce is currently providing various software solutions and platforms for developers to create and distribute custom software/applications. Tech giants like Google, Twitter, Amazon, and Facebook are using Salesforce either in the form of SaaS or PaaS.



*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



## 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

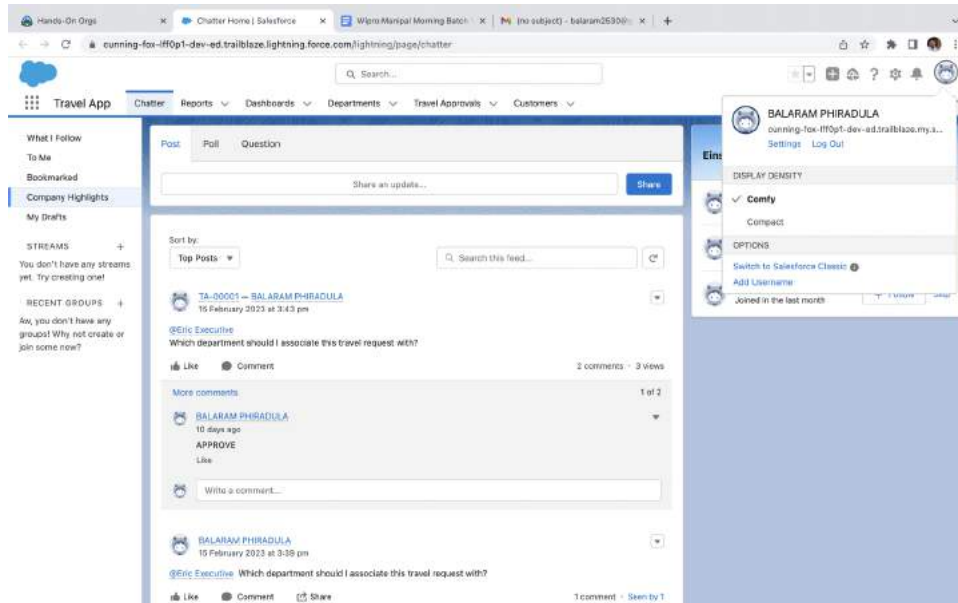
OR

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

# Capstone Project Module 1

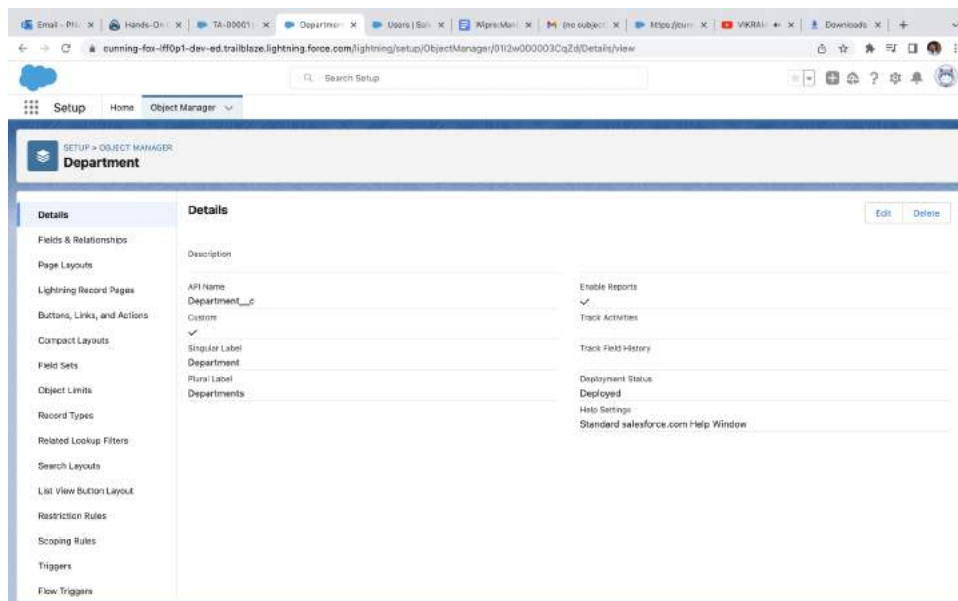
## Exercise –1

### Step – 1



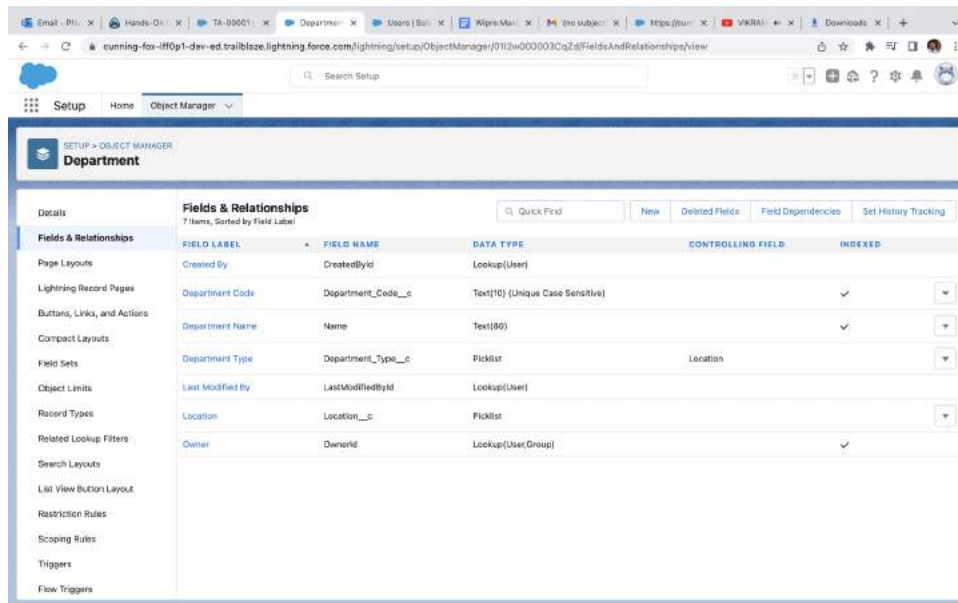
### Step –2

### Created Department Object



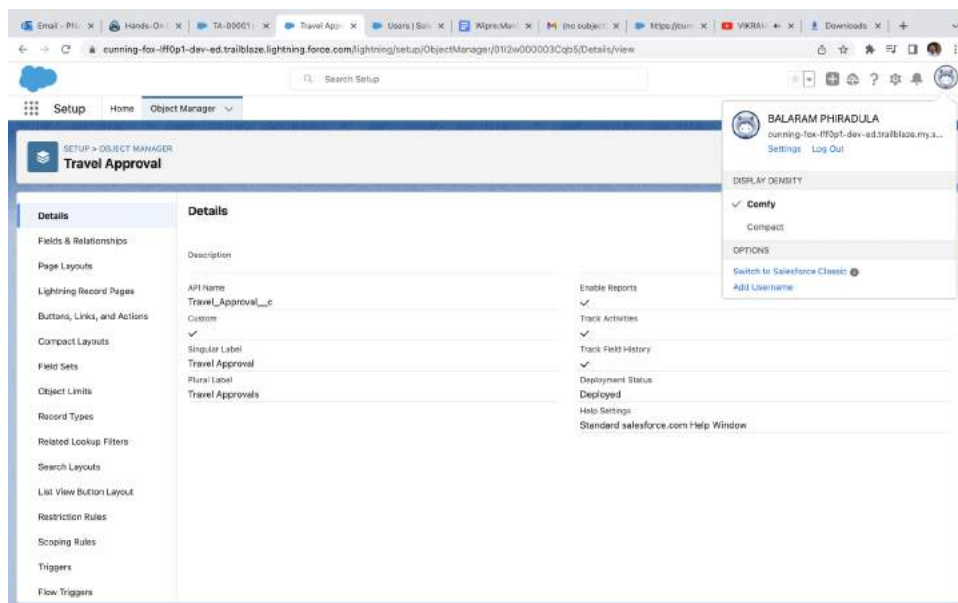
## Step – 3

### Created all the required Custom fields



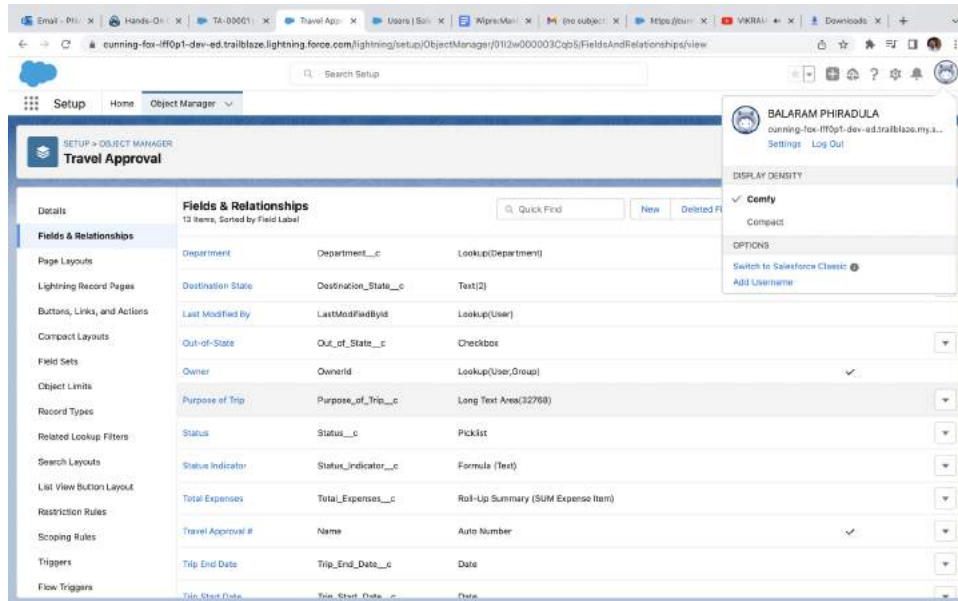
## Step – 4

### Created Travel Approval Object



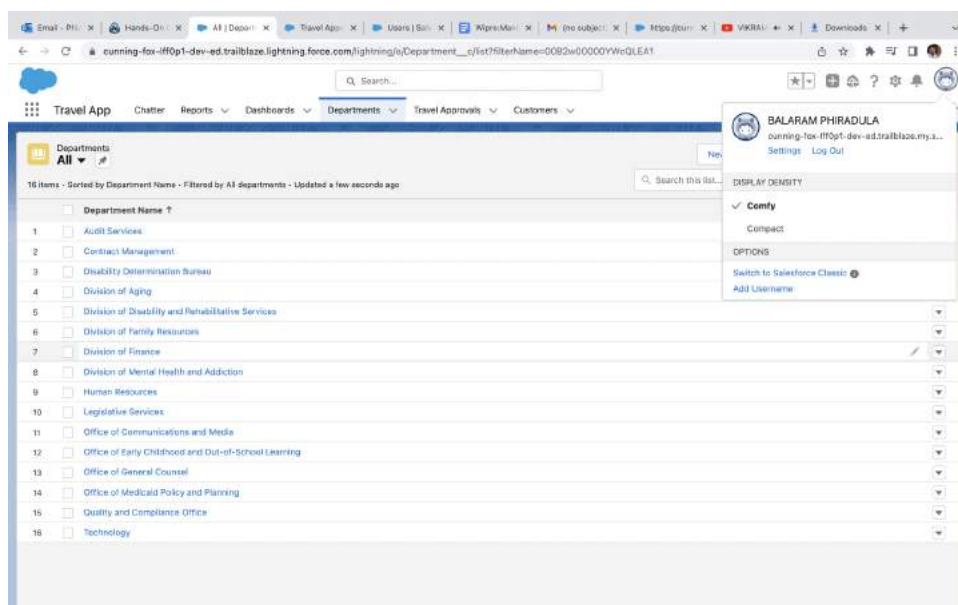


Created the required fields



Step – 5

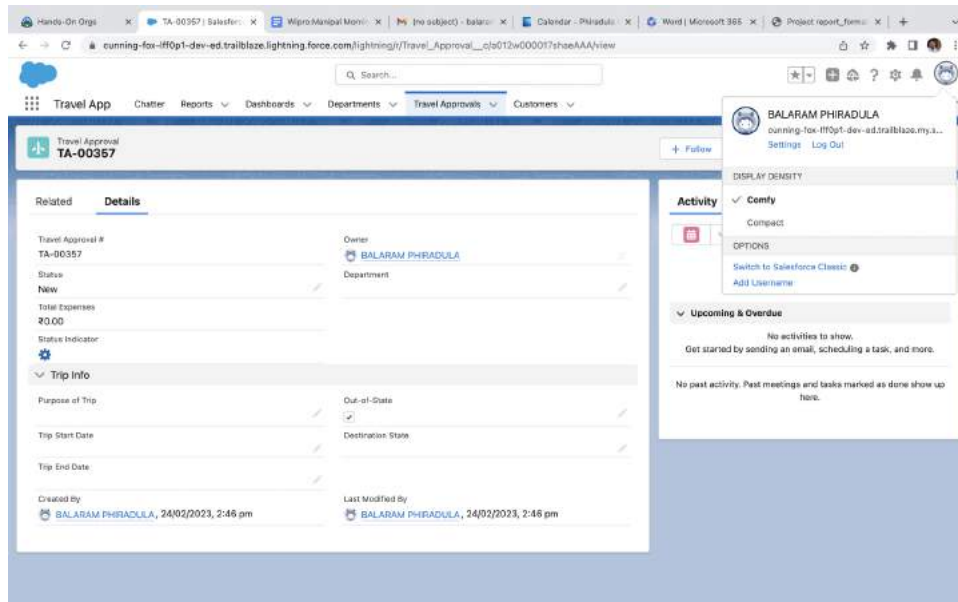
Imported Department.CSV file using Data Import Wizard



## Exercise –2

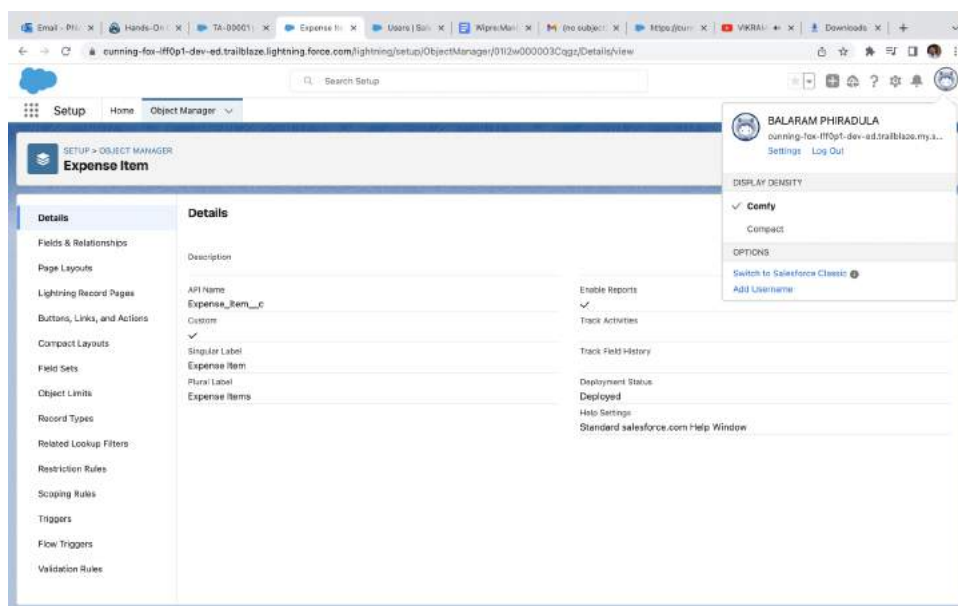
### Step – 1

#### Created Travel Approval record



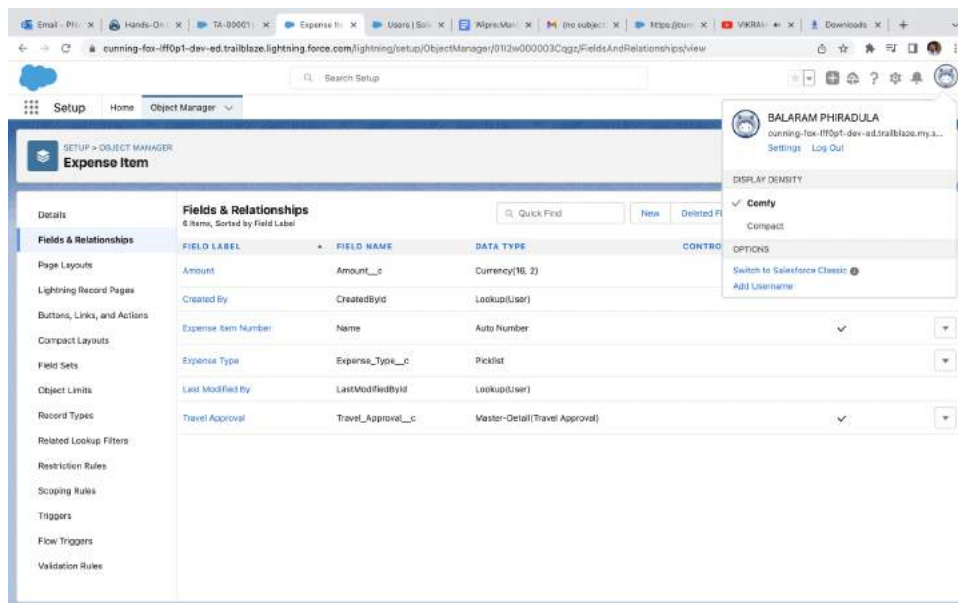
### Step –2

#### Created Expense Item Custom Object



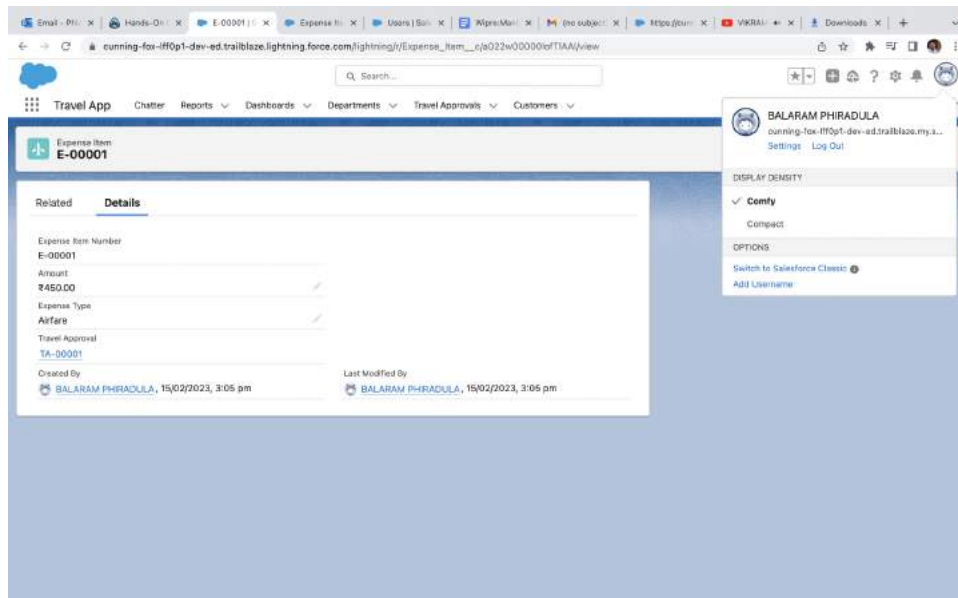
## CStep –3

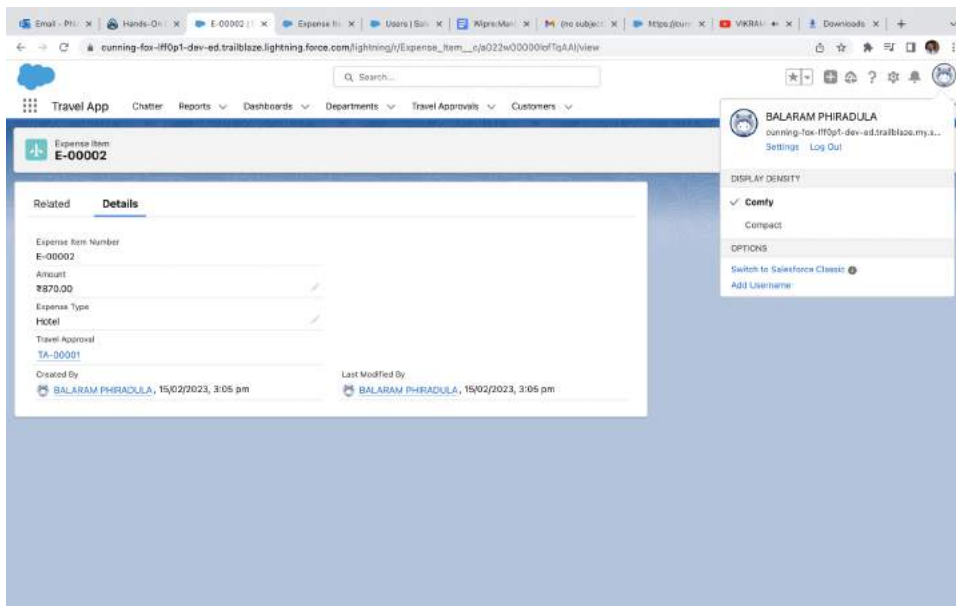
### Created Custom fields



## Step – 4

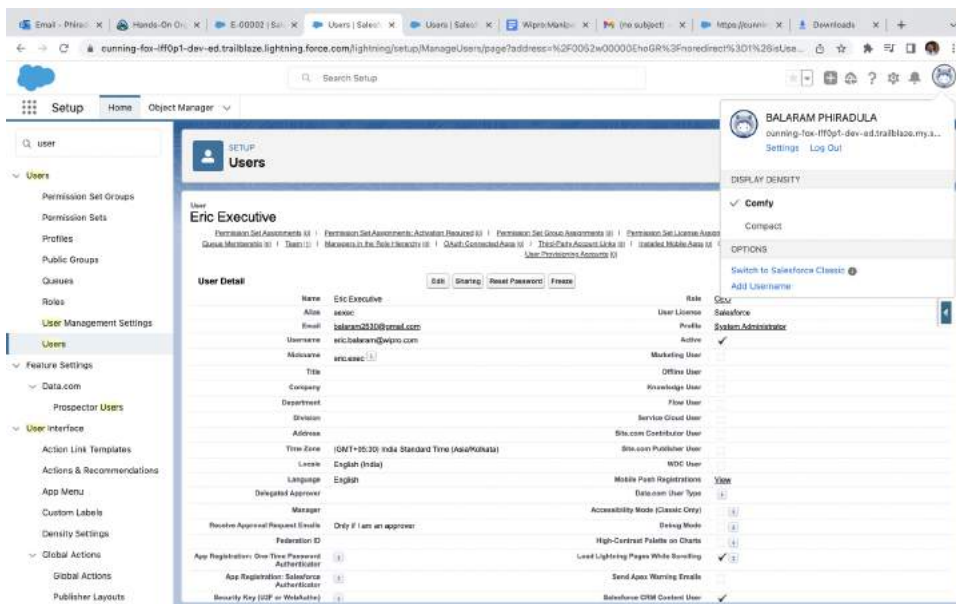
### Create Records





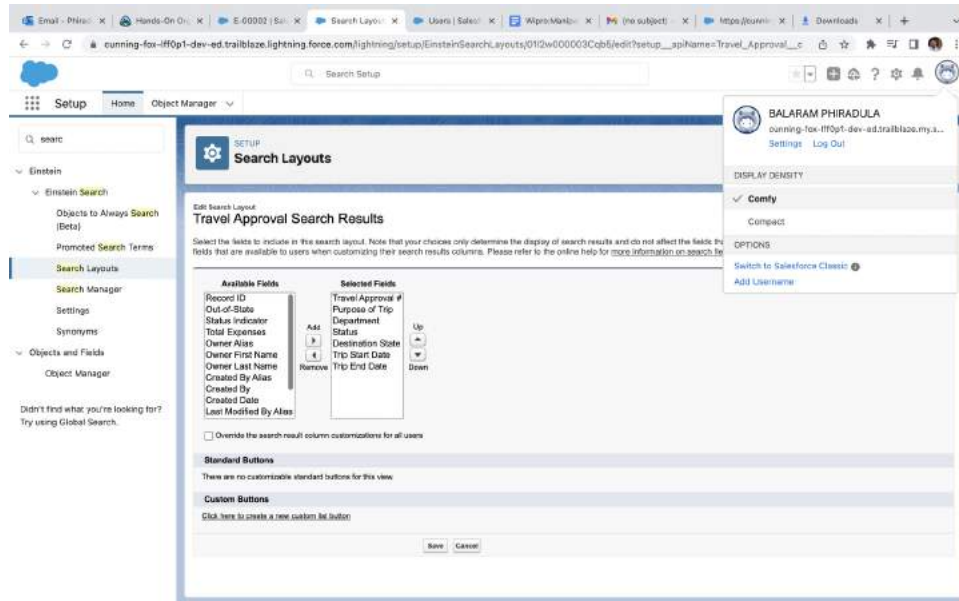
## Step – 5

### Created User Eric Executive



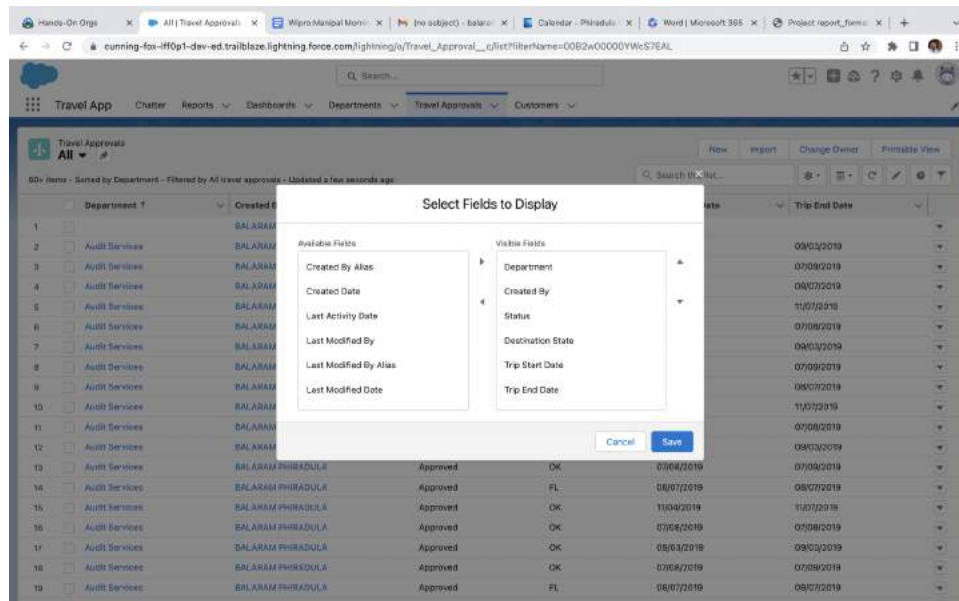
## Step –6

## Customized the Travel Approval Default Search



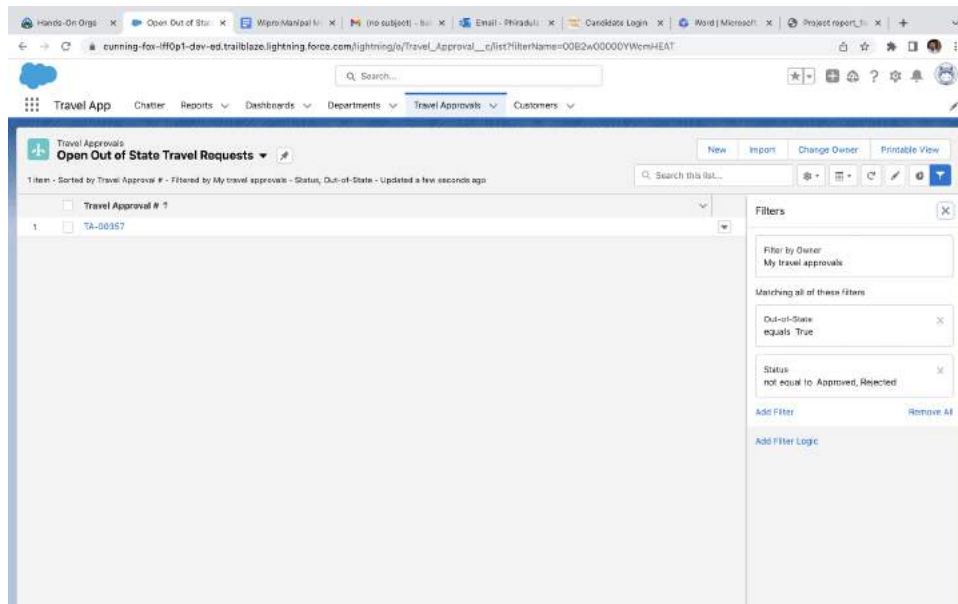
## Step –7

## Selected all the fields to Display



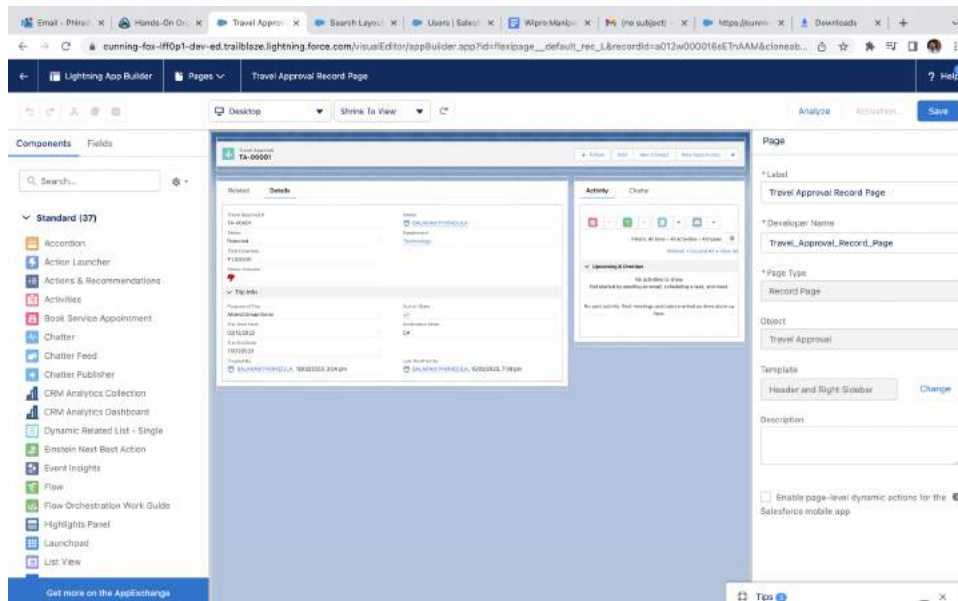
## Step – 8

# Created Travel Approval custom list view Open Out of State Travel Requests

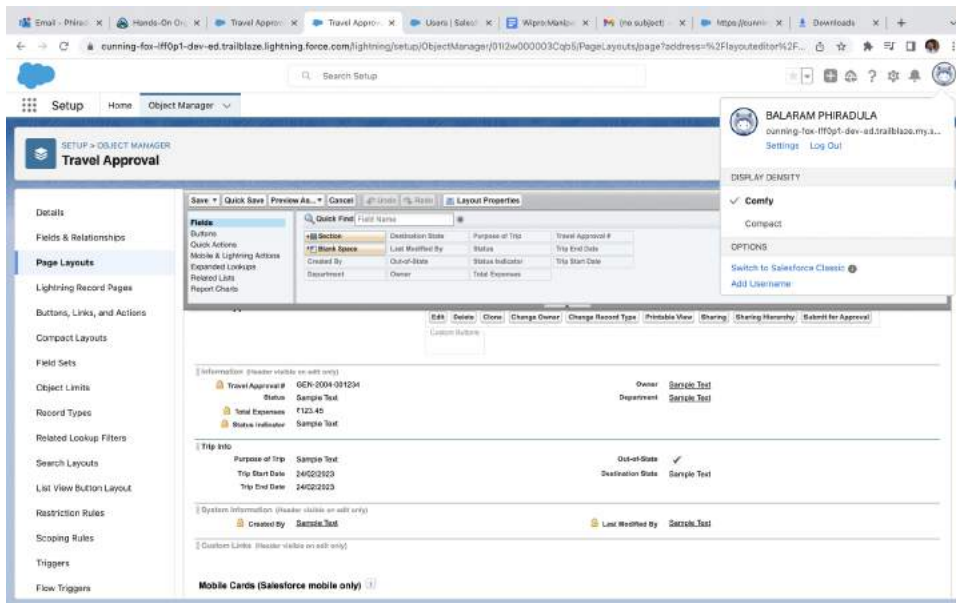


## Step – 9

# Customized Travel Approval Page Layout

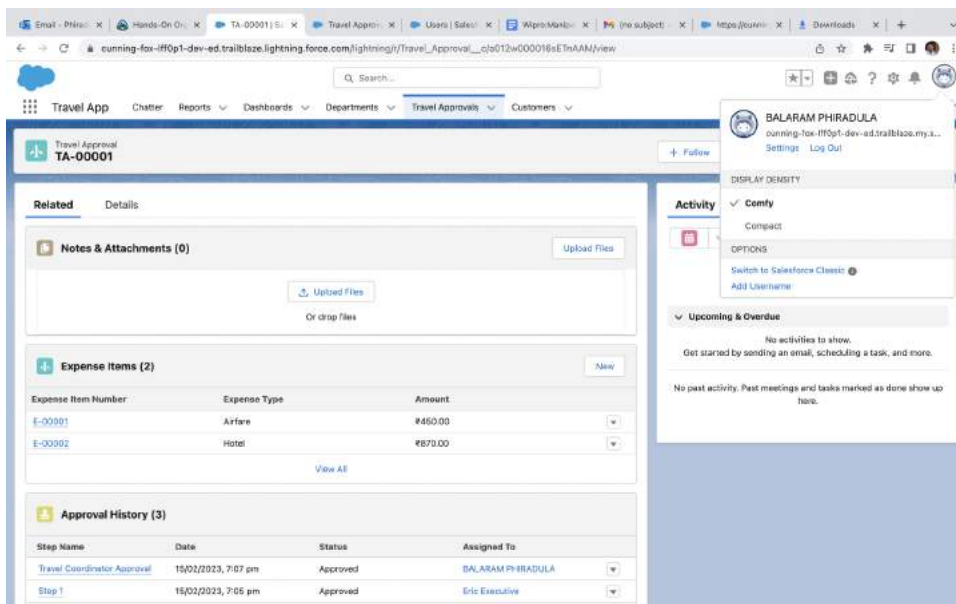






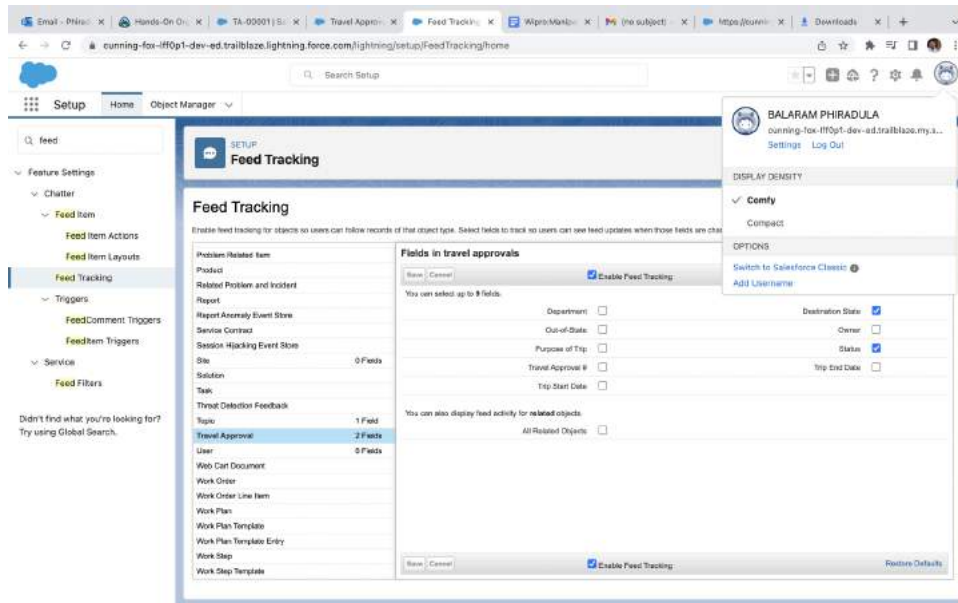
## Step – 10

### Customized the Expense Item Related list under Travel Approval Page Layout



# Step – 11

## Enable Field Tracking



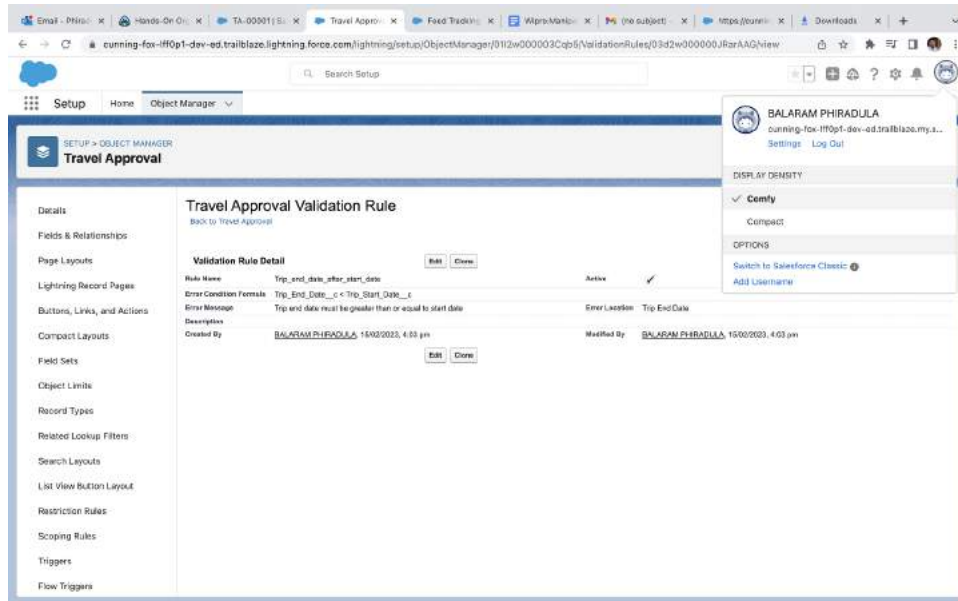


## Capstone Project Module 2

### Exercise –1

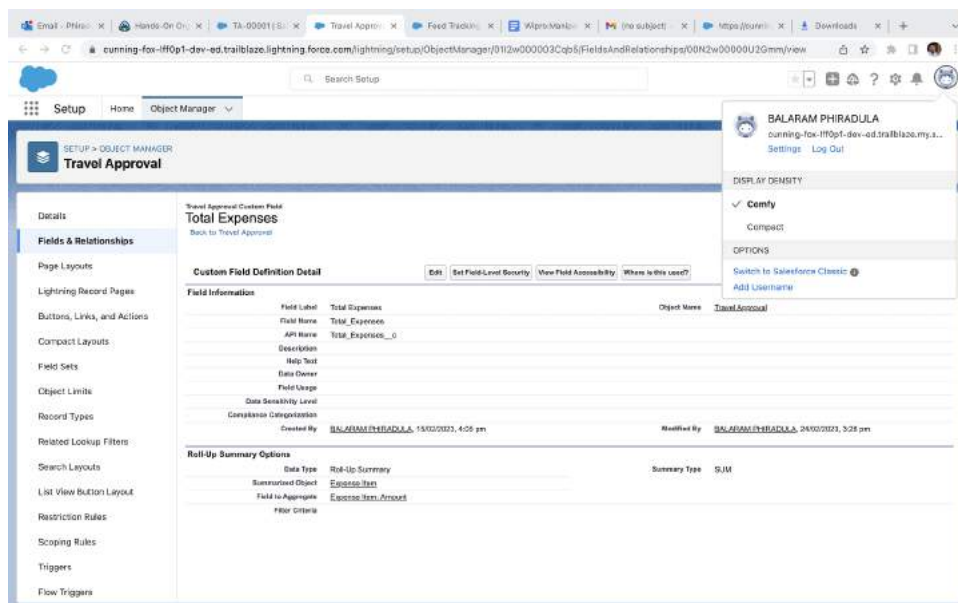
#### Step –1

Created Trip End Date after start date validation rule



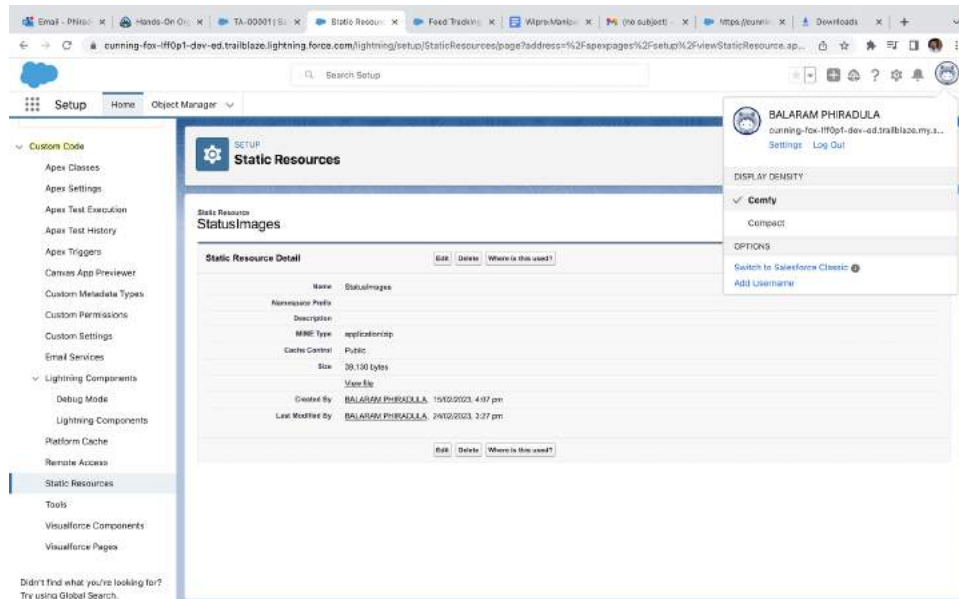
#### Step – 2

Created a Roll up summary field total expenses



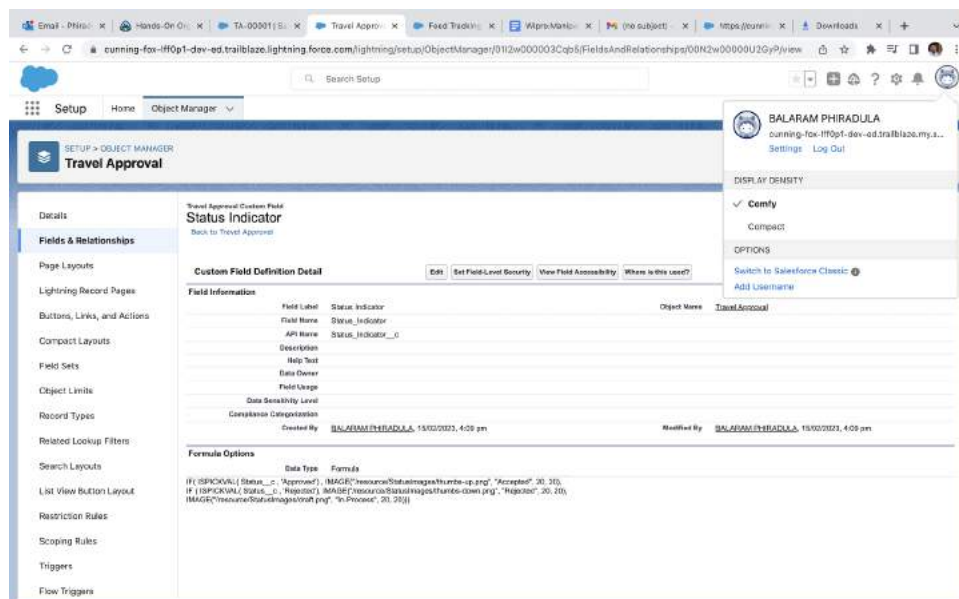
## Step – 3

### Created a formula field Status Images



## Step – 4

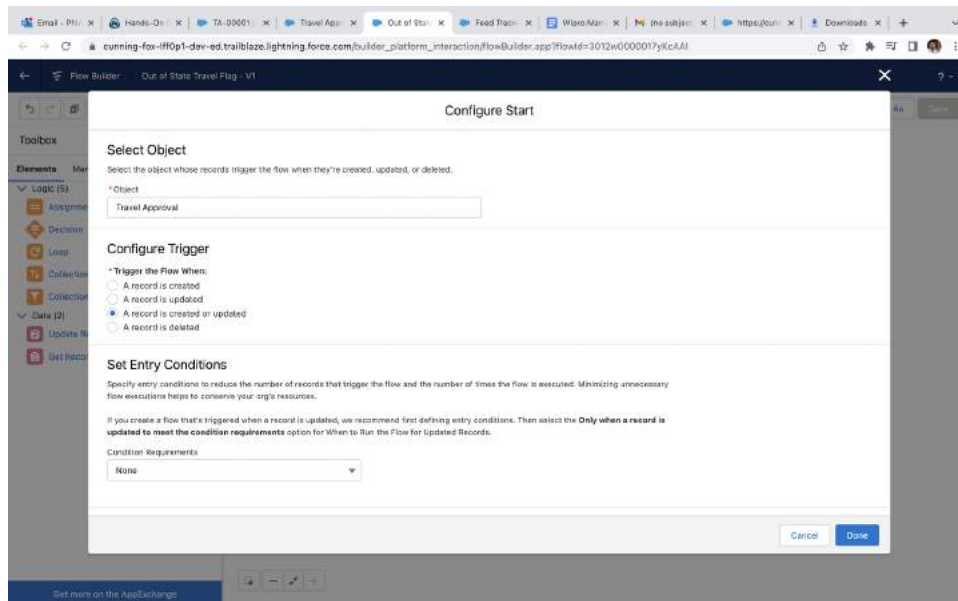
### Created a formula field Status Indicator



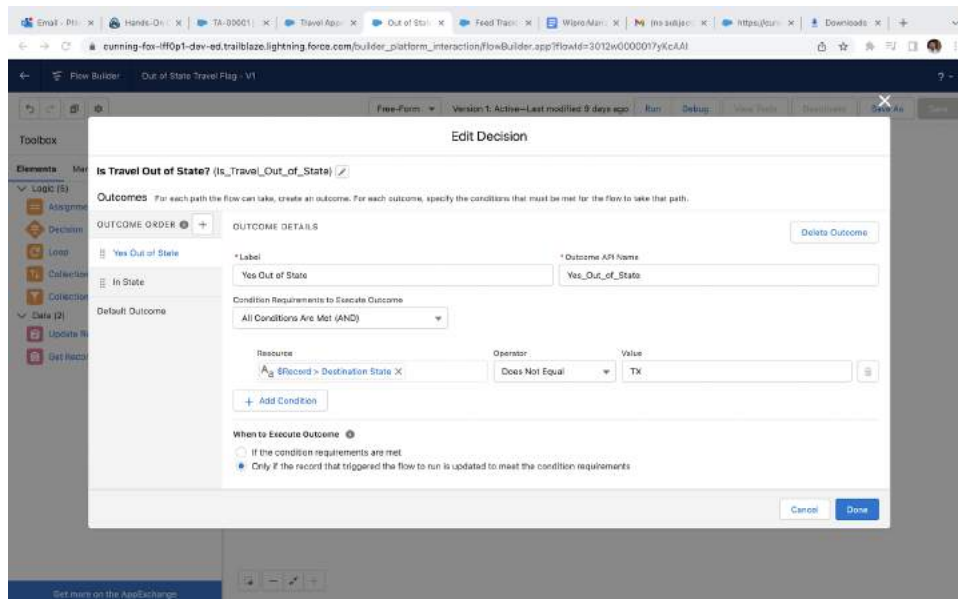
## Step –5

Created a record - Trigger flow

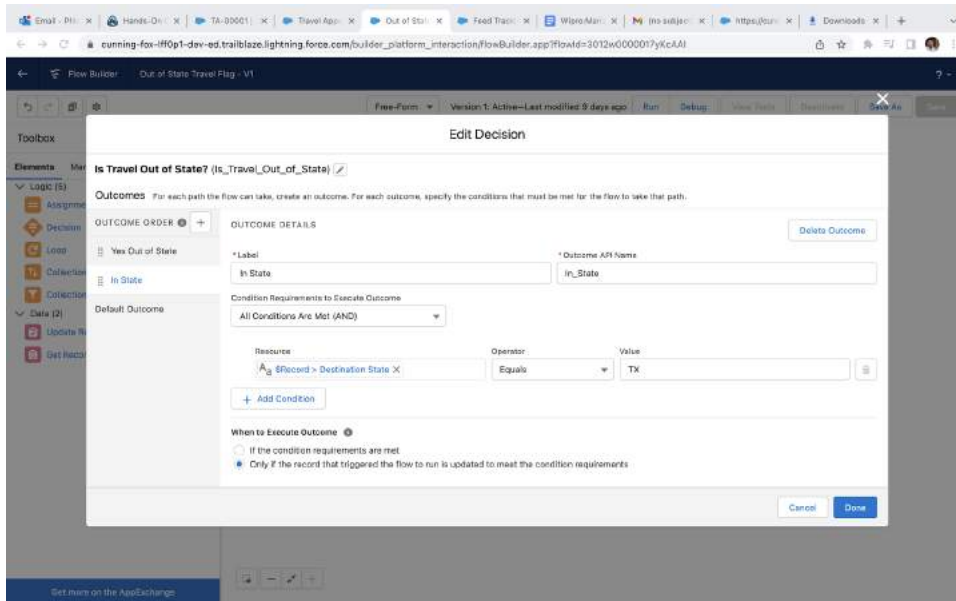
## Decision Block



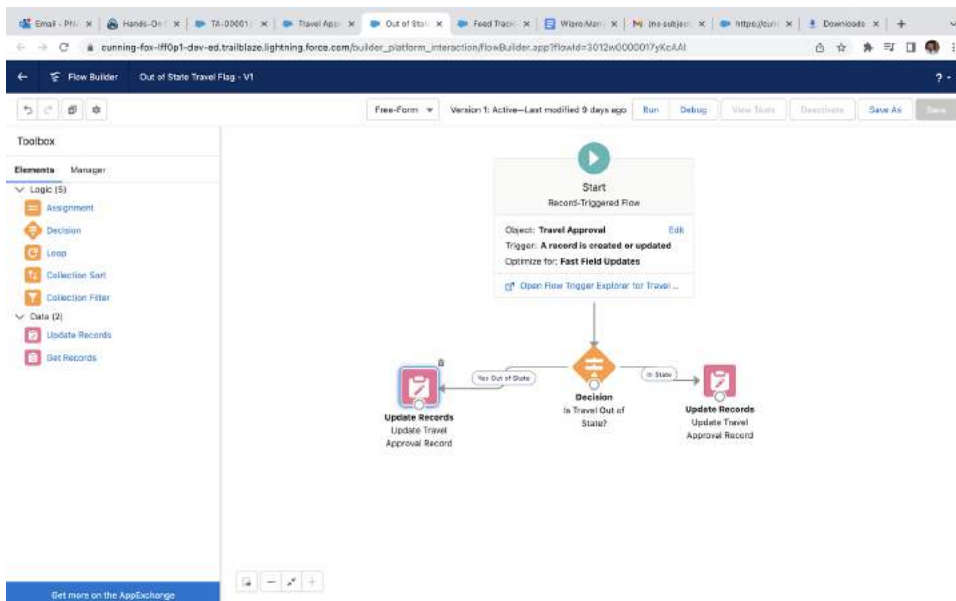
Updated Travel Approval Record ( Yes out of state)



## Updated Travel Approval Record ( In state)



## Out of State Travel Flag (flow)



## Step – 6

## Created an approval process Travel Approval Request

The screenshot shows the Salesforce Setup interface. The left sidebar has a search bar with 'acore' and a list of categories: Data, Process Automation, and Approval Processes. The main content area is titled 'Approval Processes' and shows 'Step 1. Enter Name and Description'. There are input fields for 'Process Name' (Travel Approval Request), 'Unique Name' (Travel\_Approval\_Request), and 'Description'. A 'Save' button is at the bottom right.

Setup

Approval Processes

Step 1. Enter Name and Description

Enter a name and description for your new approval process.

Enter Name and Description

Process Name: Travel Approval Request

Unique Name: Travel\_Approval\_Request

Description:

Save Next Cancel

The screenshot shows the 'Process Definition Detail' for the 'Travel Approval Request' approval process. It includes fields for 'Process Name', 'Unique Name', 'Description', 'Entry Criteria', 'Record Editability', 'Approval Assignment Email Template', 'Initial Submitters', 'Created By', and 'Modified By'. There are also sections for 'Initial Submission Actions' and 'Approval Steps'.

Setup

Approval Processes

Travel Approval: Travel Approval Request

Process Definition Detail

Process Name: Travel Approval Request

Unique Name: Travel\_Approval\_Request

Description: Most Automated Approver Determined By

Entry Criteria: True

Record Editability: Administrator ONLY

Approval Assignment Email Template: Allow Submitters to Recall Approval Requests

Initial Submitters: Travel Approval Owner

Created By: BALARAM PHIRADULA, 15/02/2023, 8:43 pm

Modified By: BALARAM PHIRADULA, 14/02/2023, 10:51 pm

Initial Submission Actions

Action Type: Record Lock

Description: Lock the record from being edited

Approval Steps

Action	Step Number	Name	Description	Criteria	Assigned Approver	Repeat Behavior
Show Actions	1	Step 1				
Show Actions	2	Travel Coordinator Approval	Travel Approval: Out-of-State Grants True		Manager	Final Rejection

Final Approval Actions

# Final Approval Actions

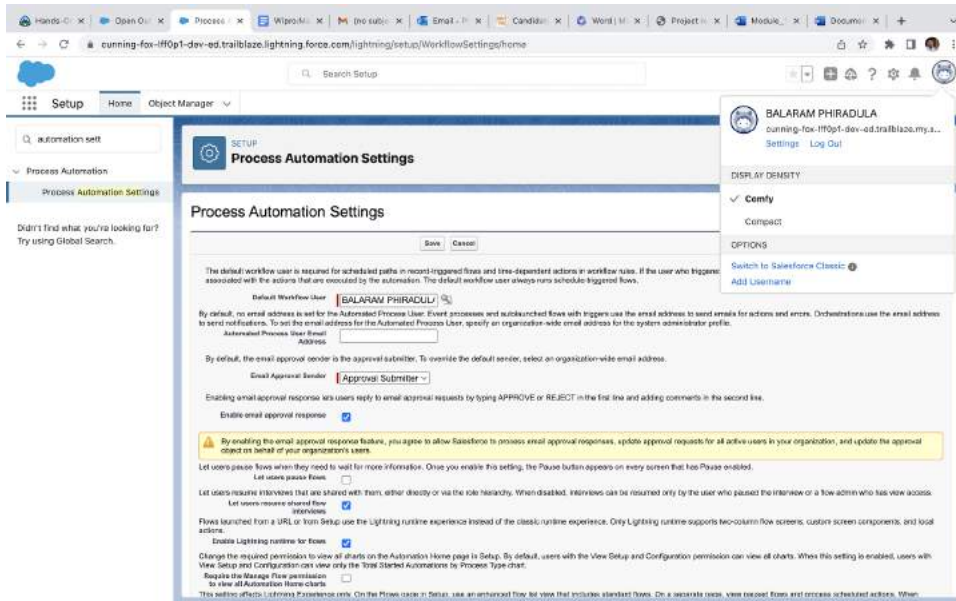
The screenshot shows the Salesforce Setup interface for configuring a Field Update. The page title is "Field Updates". The main heading is "Set Status to Approved". Below this, there is a description: "Define the field update, including the object associated with the workflow rule, approval process, or entitlement process, the field to update, and its related object. Fields are shown only for the type that you select." The "Field Update Edit" section contains the following fields: "Name" (Set Status to Approved), "Unique Name" (Set\_Status\_to\_Approve), "Description" (empty), "Object" (Travel Approval), "Field to Update" (Travel Approval Status), "Field Data Type" (Picklist), and "Re-evaluate Workflow Rules after Field Change" (checked). The "Specify New Field Value" section contains the "Picklist Options" section with three radio buttons: "The value above the current one", "The value below the current one", and "A specific value" (selected). The "A specific value" dropdown is set to "Approved". The "Save" button is highlighted.

# Final Rejection Actions

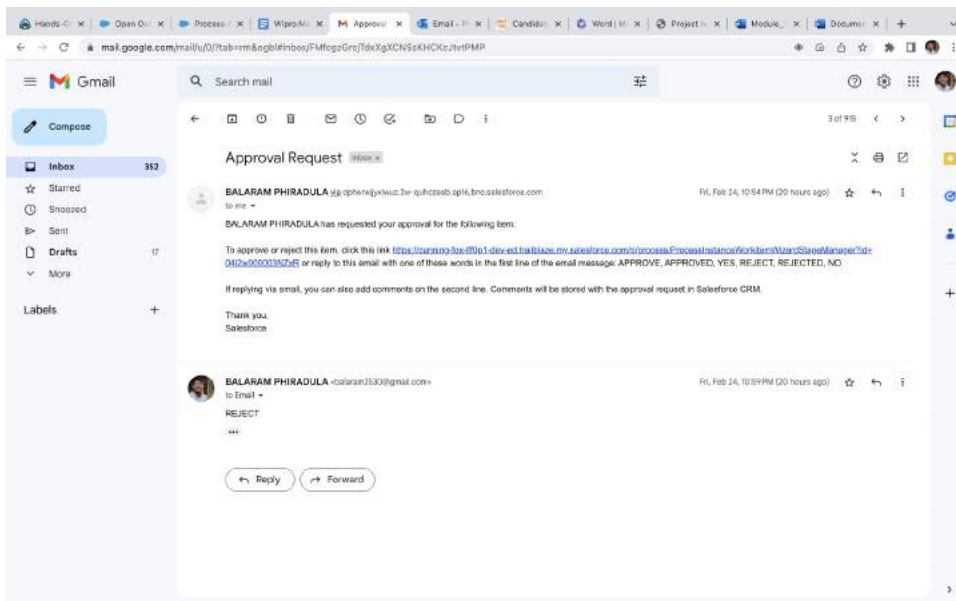
The screenshot shows the Salesforce Setup interface for configuring a Field Update. The page title is "Field Updates". The main heading is "Set Status to Rejected". Below this, there is a description: "Define the field update, including the object associated with the workflow rule, approval process, or entitlement process, the field to update, and its related object. Fields are shown only for the type that you select." The "Field Update Edit" section contains the following fields: "Name" (Set Status to Rejected), "Unique Name" (Set\_Status\_to\_Reject), "Description" (empty), "Object" (Travel Approval), "Field to Update" (Travel Approval Status), "Field Data Type" (Picklist), and "Re-evaluate Workflow Rules after Field Change" (checked). The "Specify New Field Value" section contains the "Picklist Options" section with three radio buttons: "The value above the current one", "The value below the current one", and "A specific value" (selected). The "A specific value" dropdown is set to "Rejected". The "Save" button is highlighted.



# Testing the Approval Process



## Received an Email



# Assigned to Eric Executive

This screenshot shows the 'Step 2: Specify Step Criteria' configuration page in Salesforce Setup. The page is titled 'Approval Processes' and includes a sidebar with navigation links like 'Data', 'Process Automation', and 'Approval Processes'. The main content area is divided into sections for 'Specify whether a record must meet certain criteria before entering this approval step' and 'Specify Step Criteria'. The 'Specify Step Criteria' section has two radio buttons: 'All records should enter this step' (selected) and 'Enter this step if the following criteria are met'. Below this is a table for defining criteria with columns for 'Field', 'Operator', and 'Value'. The first row is pre-filled with 'Travel Approval: Out-of-State', 'equals', and 'True'. There are also 'Previous Approval Step Information' and 'Add Filter Logic' sections. A user profile for 'BALARAM PHIRADULA' is visible in the top right corner.

Field	Operator	Value
Travel Approval: Out-of-State	equals	True
-None-	-None-	
-None-	-None-	
-None-	-None-	
-None-	-None-	

This screenshot shows the 'Step 3: Select Assigned Approver' configuration page in Salesforce Setup. The page is titled 'Approval Processes' and includes a sidebar with navigation links like 'Data', 'Process Automation', and 'Approval Processes'. The main content area is divided into sections for 'Specify the user who should approve records that enter this step' and 'Select Approver'. The 'Select Approver' section has three radio buttons: 'Let the submitter choose the approver manually', 'Automatically assign using the user field selected earlier (Manager)', and 'Automatically assign to queue'. The 'Automatically assign to queue' option is selected. Below this is a section for 'When multiple approvers are selected' with two radio buttons: 'Approve or reject based on the FIRST response' (selected) and 'Require UNANIMOUS approval from all selected approvers'. There is also a 'Reject Behavior' section. A user profile for 'BALARAM PHIRADULA' is visible in the top right corner.

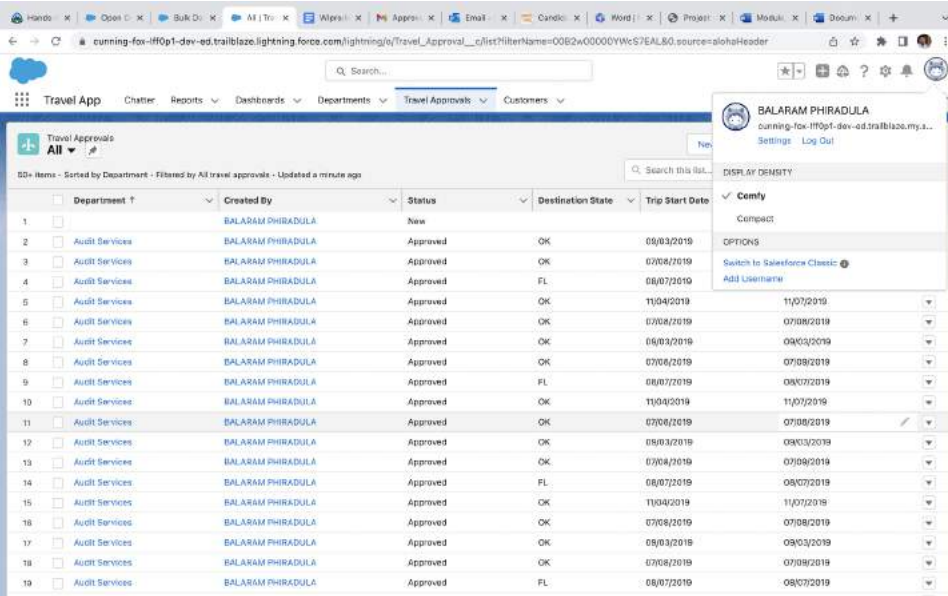
Field	Operator	Value
Travel Approval: Out-of-State	equals	True
-None-	-None-	
-None-	-None-	
-None-	-None-	
-None-	-None-	



## Exercise – 2

### Step –1

### Imported Travel Approval Records



The screenshot shows the Salesforce Travel App interface. The top navigation bar includes 'Travel App', 'Chatter', 'Reports', 'Dashboards', 'Departments', 'Travel Approvals', and 'Customers'. The main content area displays a list of travel approvals, sorted by Department. The list includes columns for Department, Created By, Status, Destination State, and Trip Start Date. A user profile for BALARAM PHIRADULA is visible in the top right corner.

Department	Created By	Status	Destination State	Trip Start Date
Audit Services	BALARAM PHIRADULA	Approved	OK	08/03/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	07/08/2019
Audit Services	BALARAM PHIRADULA	Approved	FL	08/07/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	11/04/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	07/08/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	06/03/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	07/08/2019
Audit Services	BALARAM PHIRADULA	Approved	FL	08/07/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	11/04/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	07/08/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	08/03/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	07/08/2019
Audit Services	BALARAM PHIRADULA	Approved	FL	08/07/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	11/04/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	07/08/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	08/03/2019
Audit Services	BALARAM PHIRADULA	Approved	OK	07/08/2019
Audit Services	BALARAM PHIRADULA	Approved	FL	08/07/2019

### Step – 2

### Created a Report on Travel Requests by Department

ChromeFileEditViewHistoryBackmarksProfilesTabWindowHelp

HandyOpenBulkDownloadReportWordsApproveEmailCancelWorldProjectModuleDocument

cunning-fox-ff0p1-dev-ed.trailblaze.lightning.force.com/lightning/r/Report/0002w00000CRAyEAAJed?qt=scope:user:folders

Search

Travel App

ChatterReportsDashboardsDepartmentsTravel ApprovalsCustomers

REPORT

Travel Requests by DepartmentTravel Approvals

Previewing a limited number of records. Run the report to see everything.

OutlineFilters

Groups

Outline rows

Add group

Department

Outline columns

Add column

Travel Approval: Travel Approval

Status

Out-of-State

Destination State

Trip Start Date

Trip End Date

Base Counts

Detail Rows

Subtotals

Grand Total

Department

Travel Approval: Travel Approval

Status

Out-of-State

Contract Management (1)

TA-00151

Approved

OK

Subtotal

1

Disability Determination Bureau (2)

TA-00144

Approved

OK

TA-00150

Rejected

OK

Subtotal

2

Division of Aging (1)

TA-00147

Approved

GA

11/05/2019

11/11/2019

Subtotal

1

Division of Disability and Rehabilitative Services (4)

TA-00145

Rejected

OK

04/03/2019

04/09/2019

TA-00149

Approved

FL

11/06/2019

11/12/2019

TA-00152

Approved

GA

07/07/2019

07/07/2019

TA-00157

Approved

OK

10/11/2019

10/12/2019

Subtotal

4

Division of Family Resources (1)

TA-00155

Approved

TX

04/01/2019

04/01/2019

Subtotal

0

Division of Finance (1)

TA-00148

Rejected

CA

03/09/2019

03/09/2019

Subtotal

1

Human Resources (1)

TA-00158

Approved

FL

07/09/2019

07/11/2019

BALARAM PHIRADULA

cunning-fox-ff0p1-dev-ed.trailblaze.m...

SettingsLog Out

DISPLAY DENSITY

Compact

OPTIONS

Switch to Salesforce Classic

Add License

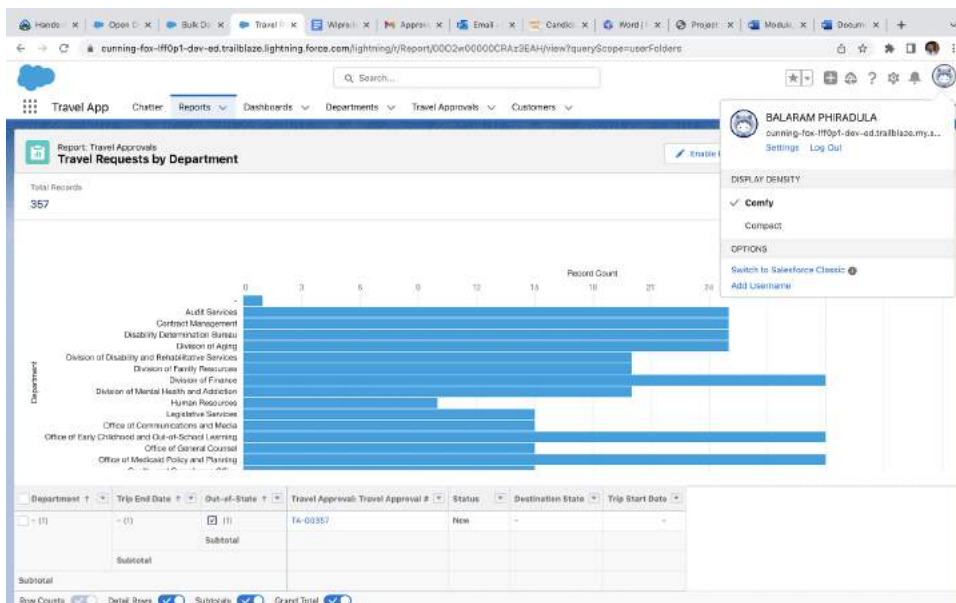
# After Testing

Report: Travel Approvals  
Travel Requests by Department

Total Records: 357  
Total Out-of-State: 272

Department	Travel Approval #	Status	Out-of-State	Destination State	Trip Start Date	Trip End Date
Subtotal	1	New	1	-	-	-
Audit Services (25)	TA-00166	Approved	1	OK	08/03/2019	09/03/2019
	TA-00174	Approved	1	OK	07/08/2019	07/09/2019
	TA-00182	Approved	1	FL	08/07/2019	08/07/2019
	TA-00188	Approved	1	OK	11/04/2019	11/07/2019
	TA-00191	Approved	1	OK	07/08/2019	07/08/2019
	TA-00224	Approved	1	OK	08/03/2019	09/03/2019
	TA-00332	Approved	1	OK	07/08/2019	07/09/2019
	TA-00440	Approved	1	FL	08/07/2019	08/07/2019
	TA-00644	Approved	1	OK	11/04/2019	11/07/2019
	TA-00649	Approved	1	OK	07/08/2019	07/08/2019
	TA-00227	Approved	1	OK	08/03/2019	09/03/2019
	TA-00246	Approved	1	OK	07/08/2019	07/09/2019
	TA-00253	Approved	1	FL	08/07/2019	08/07/2019
	TA-00257	Approved	1	OK	11/04/2019	11/07/2019
	TA-00262	Approved	1	OK	07/08/2019	07/08/2019

Row Counts: ☒ Detail Rows ☒ Subtotals ☒ Grand Total



## Step – 3

## Created a Travel Requests by Monthly Report

REPORT: Travel Requests by Month / Travel Approvals

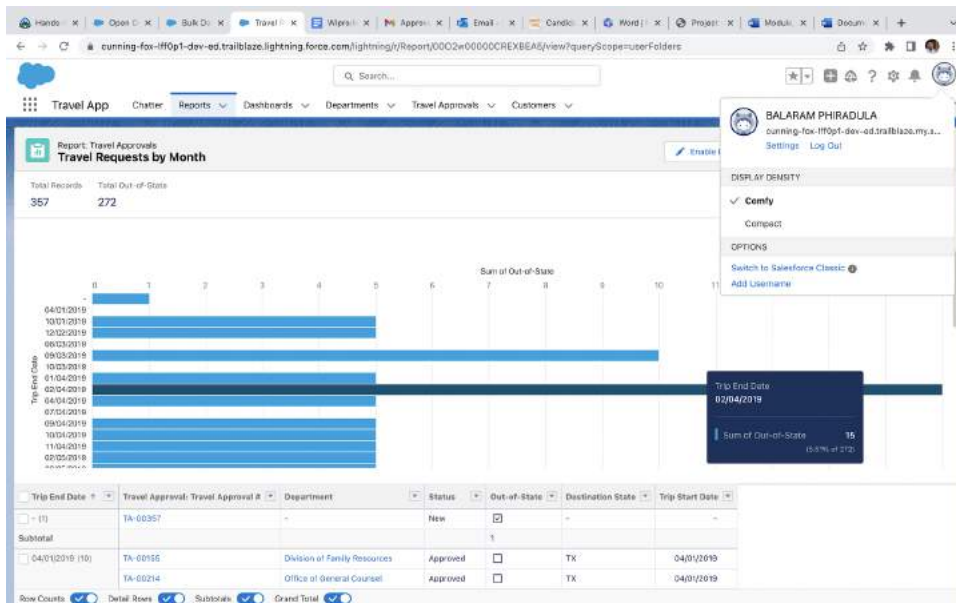
Previewing a limited number of records. Run the report to see everything.

Trip End Date	Travel Approval #	Department	Status	Out-of-State
January 2019 (2)	TA-00144	Disability Determination Bureau	Approved	
	TA-00155	Division of Family Resources	Approved	
Subtotal				
March 2019 (1)	TA-00158	Legislative Services	Approved	
Subtotal				
April 2019 (2)	TA-00161	Office of Early Childhood and Out-of-School Learning	Approved	FL
	TA-00163	Legislative Services	Approved	FL
Subtotal				
May 2019 (1)	TA-00150	Quality and Compliance Office	Approved	CA
Subtotal				
June 2019 (1)	TA-00145	Division of Disability and Rehabilitative Services	Rejected	OK
Subtotal				
July 2019 (2)	TA-00150	Disability Determination Bureau	Rejected	OK
	TA-00152	Division of Disability and Rehabilitative Services	Approved	GA
Subtotal				
August 2019 (1)	TA-00158	Office of General Counsel	Approved	FL
Subtotal				
September 2019 (2)	TA-00146	Division of Finance	Rejected	CA
	TA-00148	Technology	Approved	TX
Row Counts				

REPORT: Travel Requests by Month / Travel Approvals

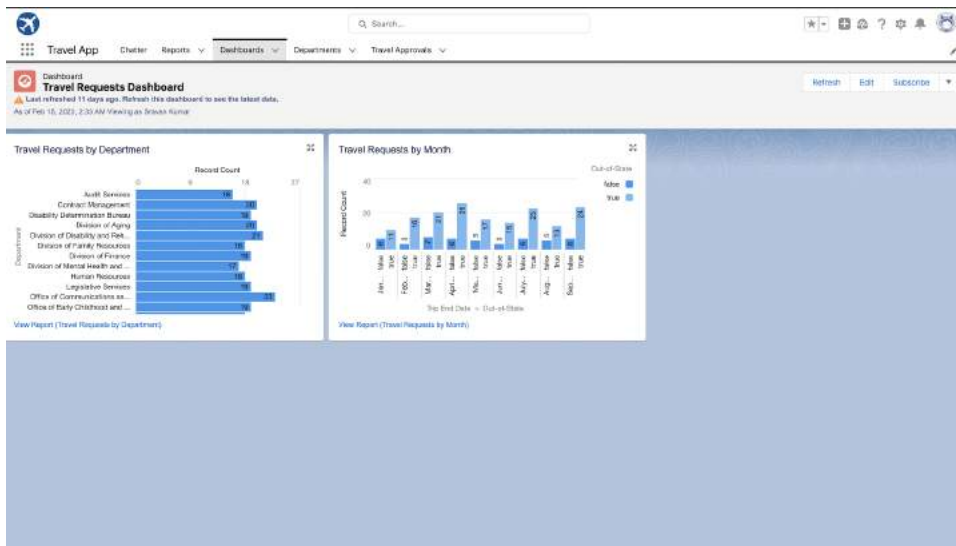
Previewing a limited number of records. Run the report to see everything.

Trip End Date	Travel Approval #	Department	Status	Out-of-State
1	TA-00144	Disability Determination Bureau	Approved	
2	TA-00145	Division of Disability and Rehabilitative Services	Rejected	
3	TA-00146	Division of Finance	Rejected	
4	TA-00147	Division of Aging	Approved	
5	TA-00148	Technology	Approved	
6	TA-00149	Division of Disability and Rehabilitative Services	Approved	FL
7	TA-00150	Disability Determination Bureau	Rejected	OK
8	TA-00151	Contract Management	Approved	OK
9	TA-00152	Division of Disability and Rehabilitative Services	Approved	GA
10	TA-00153	Office of Communications and Media	Approved	OK
11	TA-00154	Office of Medicaid Policy and Planning	Approved	CA
12	TA-00155	Division of Family Resources	Approved	TX
13	TA-00156	Human Resources	Approved	FL
14	TA-00157	Division of Disability and Rehabilitative Services	Approved	OK
15	TA-00158	Office of General Counsel	Approved	FL
16	TA-00159	Legislative Services	Approved	TX
17	TA-00160	Quality and Compliance Office	Approved	CA
18	TA-00161	Office of Early Childhood and Out-of-School Learning	Approved	FL
19	TA-00162	Office of Communications and Media	Approved	FL
20	TA-00163	Legislative Services	Approved	FL



## Step – 4

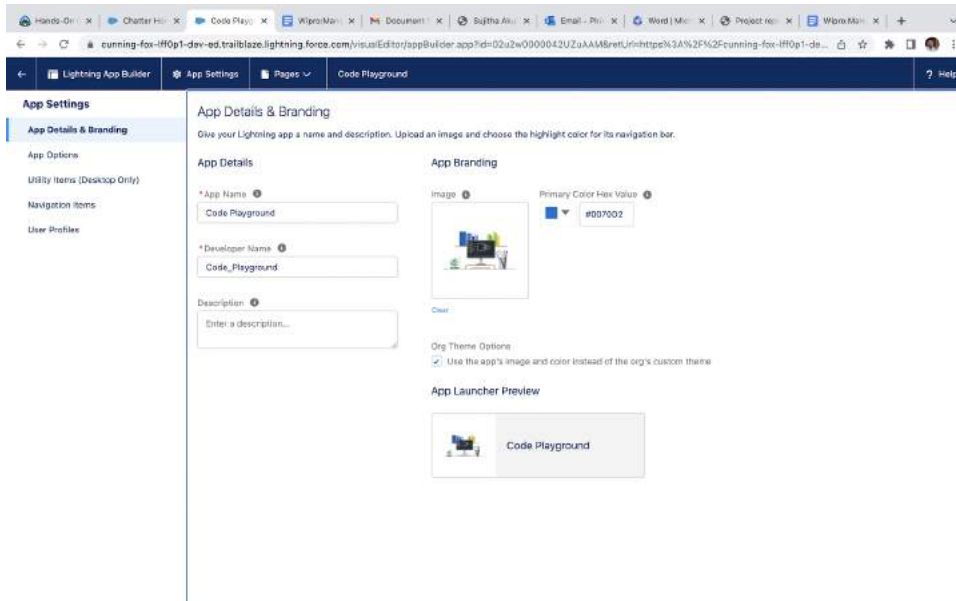
### Created a Report and Dashboard for Travel Approvals



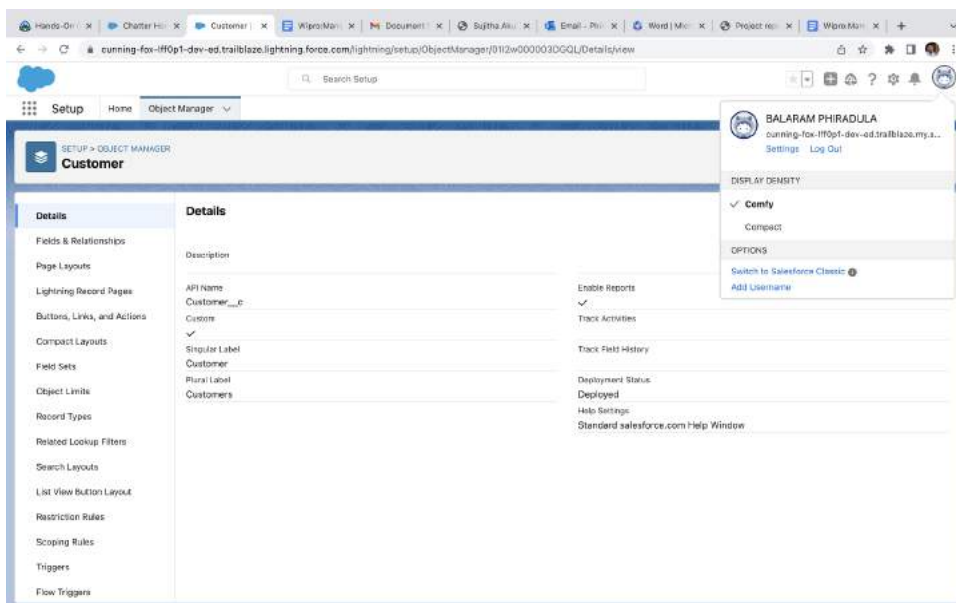
# Capstone Project Module 3

## Exercise – 1

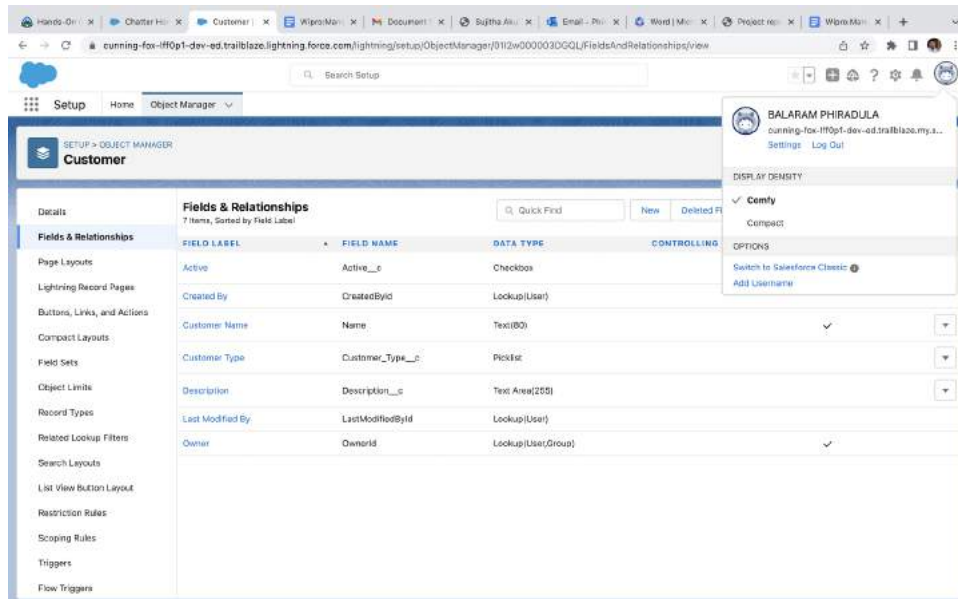
### Created Code Playground App



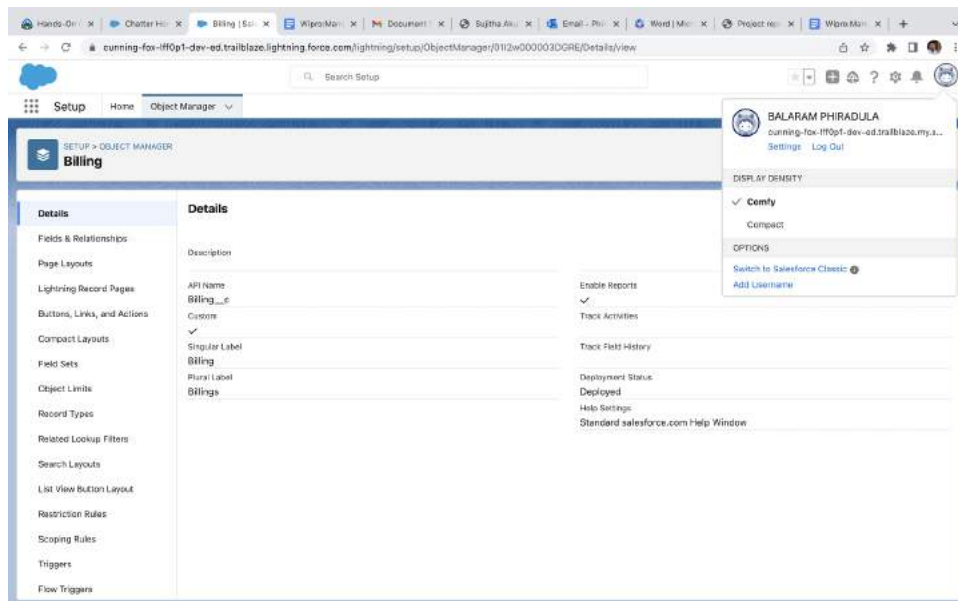
Created the Custom Object Customer as (SCustomer) as there is already a Standard Object named Customer



## Created all the Custom Fields

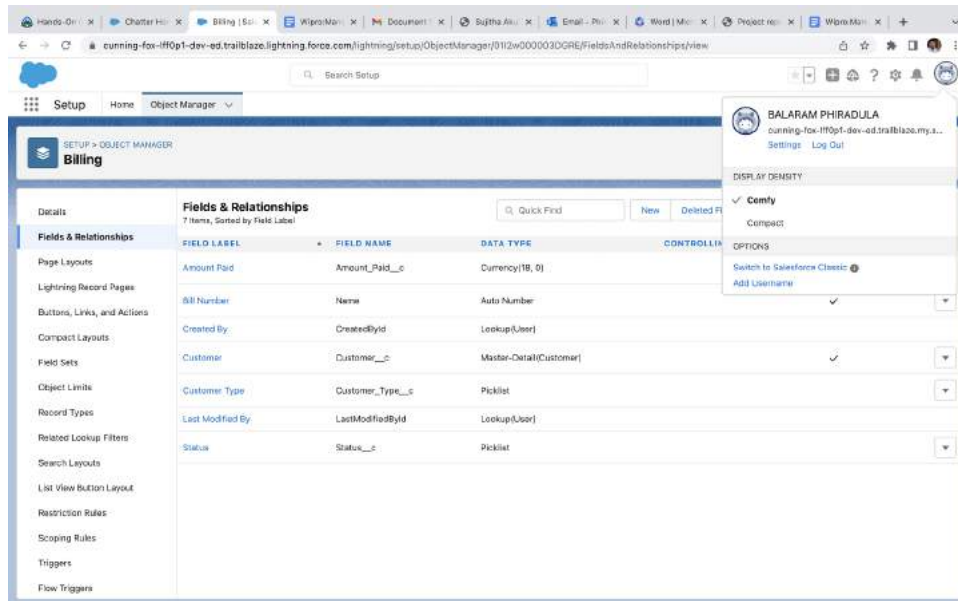


## Created a Custom Object named Billing

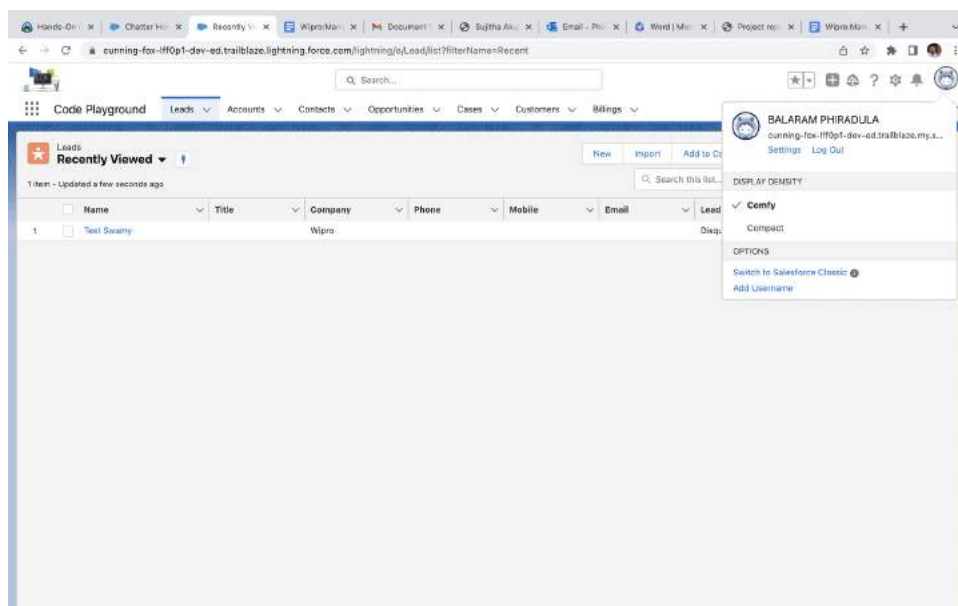




## Created Custom fields for billing object

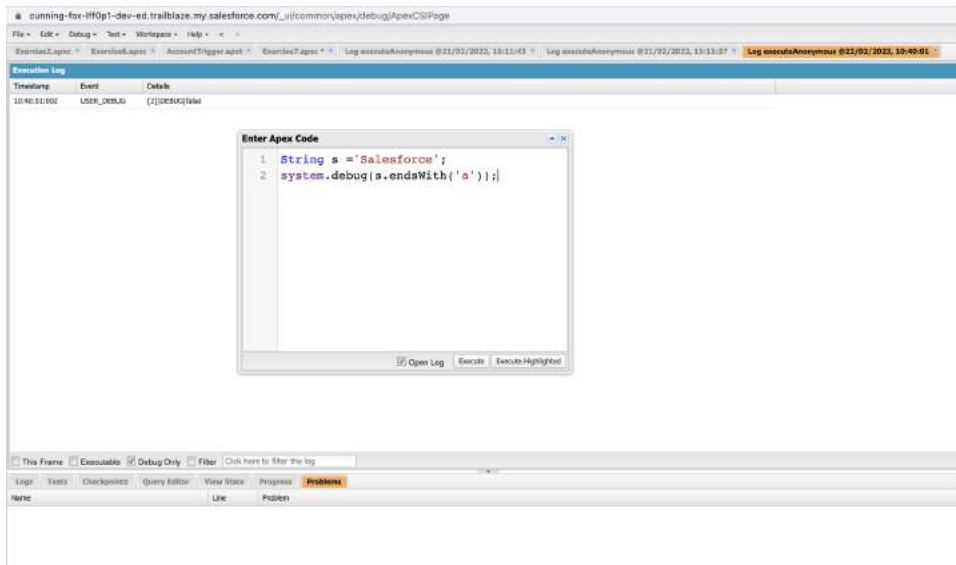


## Code Playground App

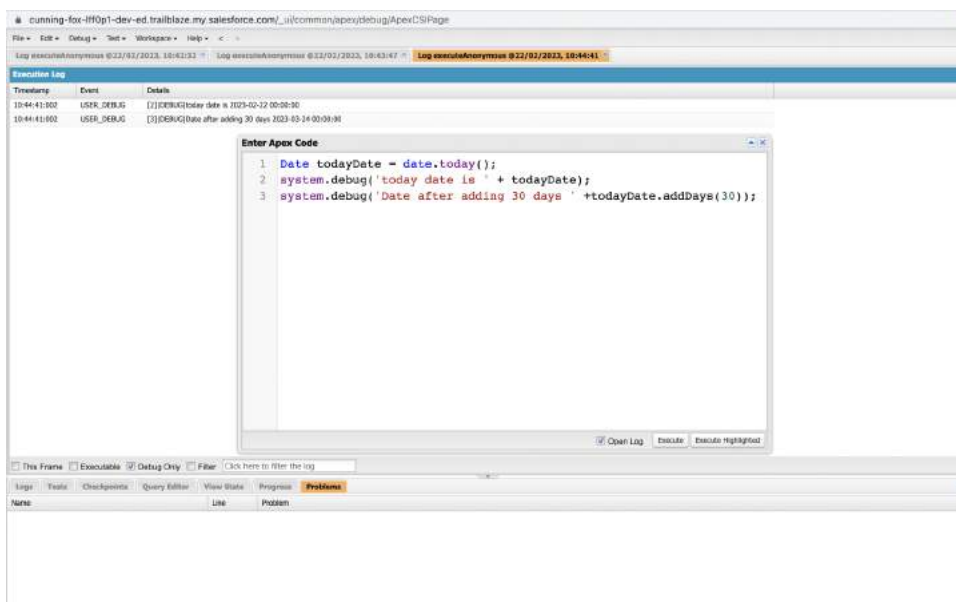


## Exercise – 2

### String Variable using endsWith() method

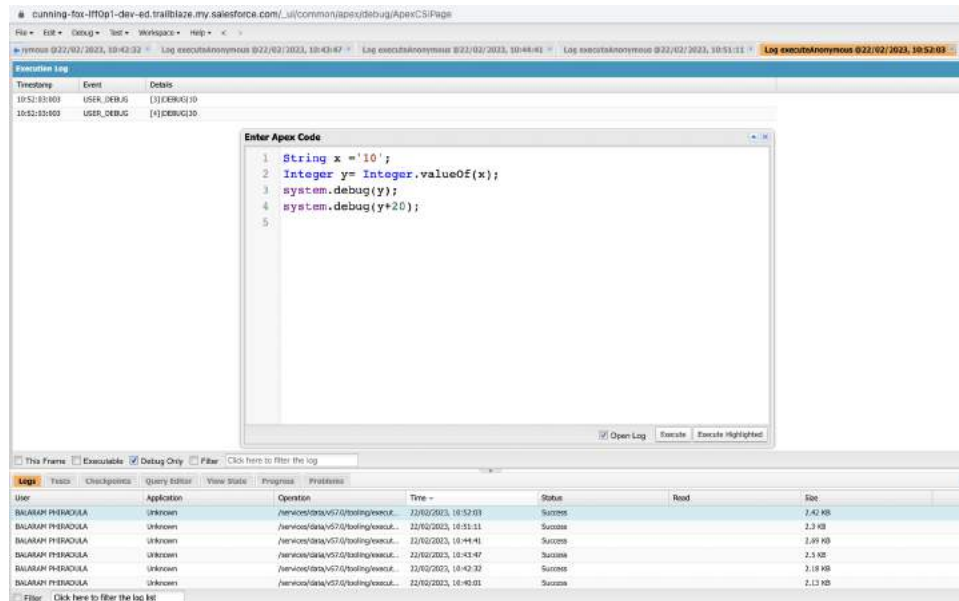


### Use the Date method and display the Date

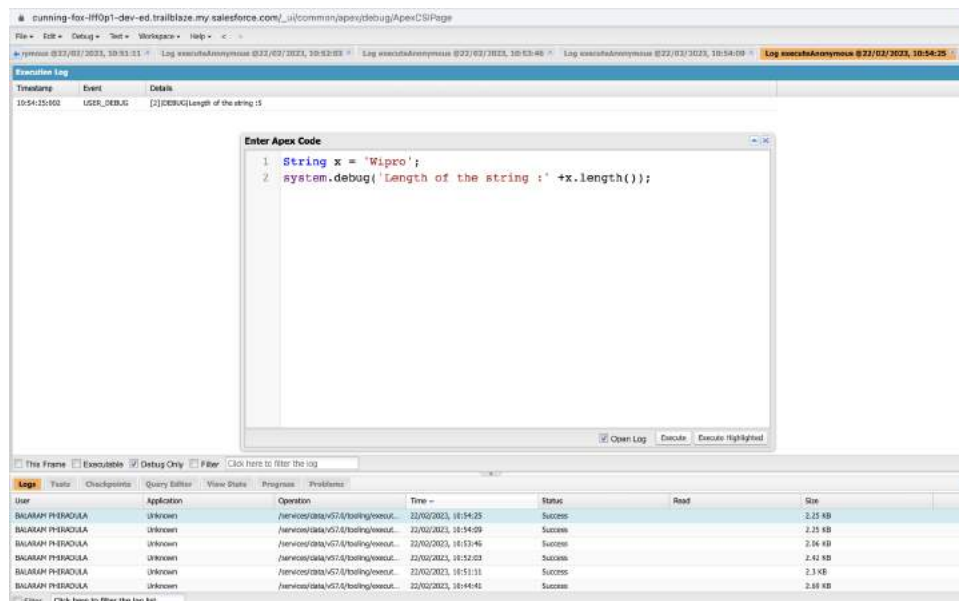




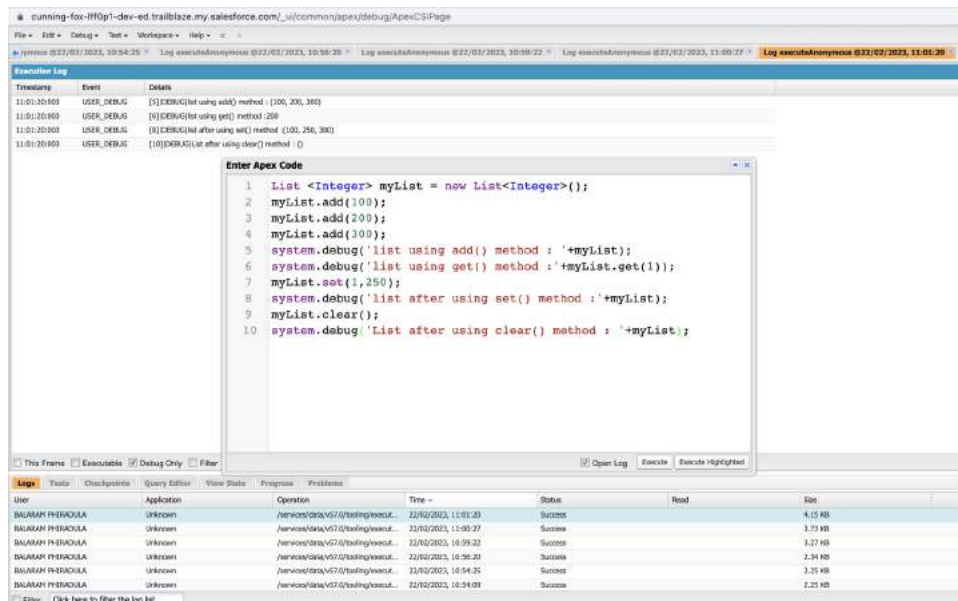
Converted the string to integer and added 20 to it



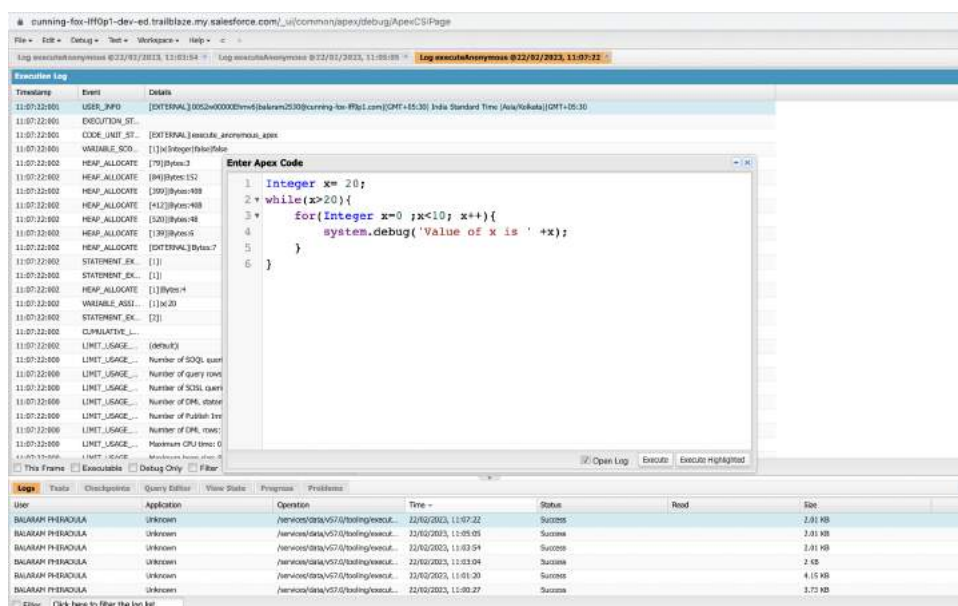
Used Length method to display String length



## Defined a list and displayed the outputs using different methods



Printed numbers between 0 to 9



## Exercise – 3

The screenshot shows the Salesforce Developer Console interface. At the top, the browser address bar displays the URL: `running-fox-ff0p1-dev-ed.trailblaze.my.salesforce.com/_ui/common/apex/debug/ApexCSPage`. Below the address bar, there are tabs for "Log executionAnonymous @12/02/2023, 11:03:54", "Log executionAnonymous @12/02/2023, 11:05:08", "Log executionAnonymous @12/02/2023, 11:07:22", and "Log executionAnonymous @12/02/2023, 11:08:54". The "Execution Log" tab is selected, showing a table with columns: Timestamp, Event, and Details. The log entry for 11:08:55:002 shows the event "USER\_DEBUG" with details "[v]ICEBKG/mwe".

In the center, the "Enter Apex Code" window is open, displaying the following code:

```
1 Integer myunluckyNumber = 7;
2 Integer myluckyNumber = 15;
3 system.debug(myLuckyNumber != myunluckyNumber + 8);
4
```

At the bottom, the "Log" tab is selected, showing a table with columns: User, Application, Operation, Time, Status, Read, and Size. The log entries are as follows:

User	Application	Operation	Time	Status	Read	Size
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:08:55	Success		2.42 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:07:22	Success		2.01 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:05:08	Success		2.01 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:03:54	Success		2.01 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:03:04	Success		2 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:01:20	Success		4.15 KB

## Exercise – 4

The screenshot shows the Salesforce Developer Console interface. At the top, the browser address bar displays the URL: `running-fox-ff0p1-dev-ed.trailblaze.my.salesforce.com/_ui/common/apex/debug/ApexCSPage`. Below the address bar, there are tabs for "Log executionAnonymous @12/02/2023, 11:03:54", "Log executionAnonymous @12/02/2023, 11:05:08", "Log executionAnonymous @12/02/2023, 11:07:22", "Log executionAnonymous @12/02/2023, 11:08:54", and "Log executionAnonymous @12/02/2023, 11:10:10". The "Execution Log" tab is selected, showing a table with columns: Timestamp, Event, and Details. The log entry for 11:10:10:002 shows the event "USER\_DEBUG" with details "[v]ICEBKG/mwe".

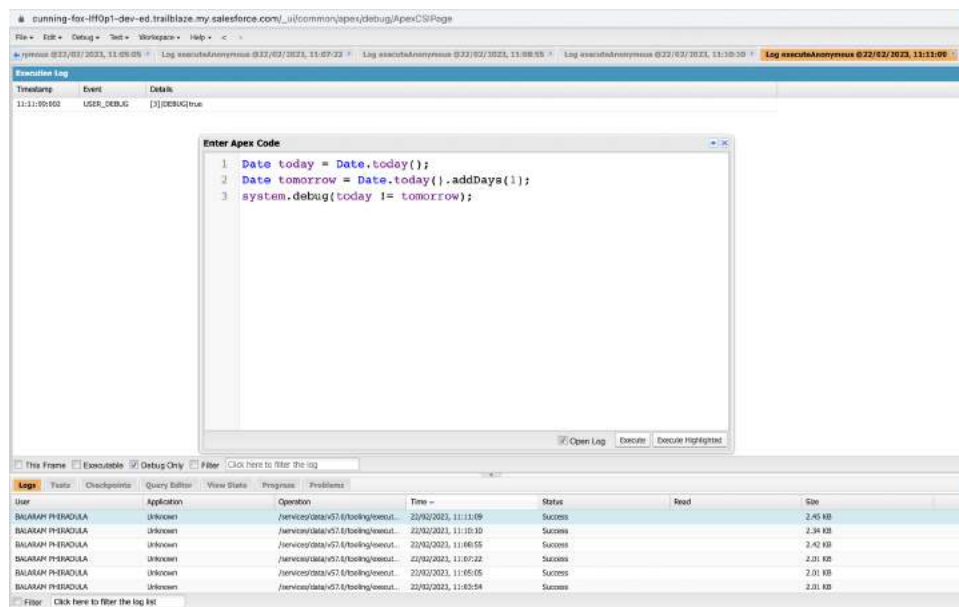
In the center, the "Enter Apex Code" window is open, displaying the following code:

```
1 Boolean isTrue = true;
2 Boolean isFalse = false;
3 system.debug(isTrue || isFalse);
4
```

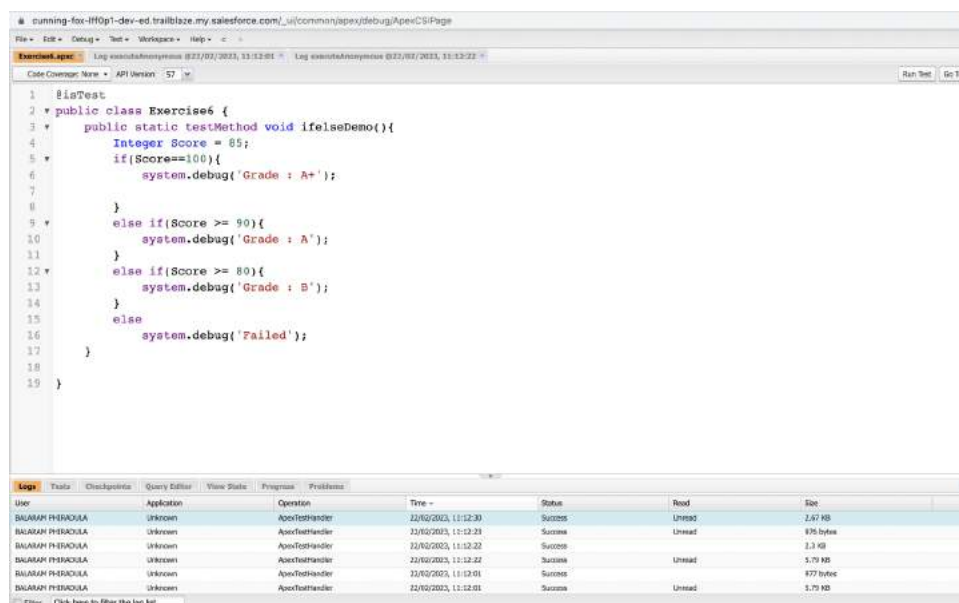
At the bottom, the "Log" tab is selected, showing a table with columns: User, Application, Operation, Time, Status, Read, and Size. The log entries are as follows:

User	Application	Operation	Time	Status	Read	Size
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:10:10	Success		2.34 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:08:55	Success		2.42 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:07:22	Success		2.01 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:05:08	Success		2.01 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:03:54	Success		2.01 KB
BALAHAM PIRADJALA	Unknown	/services/data/v57.0/tooling/execute...	22/02/2023, 11:03:04	Success		2 KB

## Exercise – 5



## Exercise – 6 Program for Finding the Grade based on Score



The screenshot shows the Salesforce ApexCSPage interface. At the top, there's a navigation bar with 'File', 'Edit', 'Debug', 'Test', 'Workspace', and 'Help'. Below this is a tab bar with several tabs, including 'BillingRecords.apex', 'CustomerTrigger.apex', and 'Exercise7.apex'. The 'Exercise7.apex' tab is active, showing the execution log. The log table has columns for 'Timestamp', 'Event', and 'Details'. The first row shows a successful execution of the 'BillingRecords()' method at 15:28:37. Below the log, there's a 'Filter' button and a 'Click here to filter the log' link. At the bottom, there's a table with columns for 'User', 'Application', 'Operation', 'Time', 'Status', 'Root', and 'Size'. The table shows five rows of execution data, all with a 'Success' status.

Timestamp	Event	Details
15:28:17-803	USER_DEBUG	[1]DEBUG:Grade : 8

User	Application	Operation	Time	Status	Root	Size
SAURABH PITHADIA	Unknown	ApexTestHandler	23/02/2023, 15:28:37	Success		2.3 KB
SAURABH PITHADIA	Unknown	ApexTestHandler	23/02/2023, 15:28:37	Success		5.70 KB
SAURABH PITHADIA	Unknown	ApexTestHandler	23/02/2023, 15:28:36	Success		877 bytes
SAURABH PITHADIA	Unknown	/services/data/v57.0/testing/execute...	23/02/2023, 15:28:06	Apex CPU time limit exceeded	Unread	17.67 MB
SAURABH PITHADIA	Unknown	/services/data/v57.0/testing/execute...	23/02/2023, 15:27:31	Apex CPU time limit exceeded	Unread	17.49 MB

## Exercise – 7

### Program to execute Apex – for loop

The screenshot shows the Salesforce ApexCSPage code editor. The code is for a class named 'Exercise7' with a static method 'BillingRecords()'. The method queries for all 'Billing\_\_c' records created today, iterates through them, and adds their names to a list. The code is as follows:

```

1 public class Exercise7 {
2
3     public static void BillingRecords(){
4
5         list <Billing__c> BillingList =[select Id,Name,Status__c from Billing__c where CreatedDate=today];
6         // system.debug(BillingList);
7         list <String> billList = new List <String>();
8         for(Billing__c bill:BillingList){
9             if(bill.Status__c=='Paid'){
10
11                 system.debug('Value of Current Record in the Loop' +bill);
12                 billList.add(bill.Name);
13             }
14         }
15         system.debug('Billing Records are : ' +billList);
16     }
17 }
18
19

```

Below the code editor, there's a 'Log' tab and a 'Problems' tab. The 'Log' tab is active, showing a table with columns for 'Name', 'Line', and 'Problem'. The table is currently empty.





running-fox-ff0p1-dev-ed.trailblaze.my.salesforce.com/\_ui/comm/an/apex/debug/ApexCSPage

File Edit Debug Test Workspace Help

InterfaceExample.apex PremiumCustomer.apex normalCustomer.apex Log eventAnonymous @22/02/2023, 14:38:05 Log eventAnonymous @22/02/2023, 14:48:54 Log eventAnonymous @22/02/2023, 14:53:47

Code Coverage: None API Version: 57

```

1 * public class PremiumCustomer implements InterfaceExample {
2 *     public Double percentageDiscountTobeApplied(){
3 *         return 0.30;
4 *     }
5 *
6 * }

```

Logs Tests Checkpoints Query Editor View State Progress Problems

User	Application	Operation	Time	Status	Read	Size
BALAMAH PIRADULLA	Unknown	/services/data/v57.0/testing/execute...	22/02/2023, 14:53:47	Success		3.81 KB
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:48:54	Success		1.75 KB
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:48:45	Success	Unread	677 bytes
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:48:45	Success	Unread	2.31 KB
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:46:23	Success		476 bytes
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:46:22	Success	Unread	1.75 KB

Filter Click here to filter the log list

running-fox-ff0p1-dev-ed.trailblaze.my.salesforce.com/\_ui/comm/an/apex/debug/ApexCSPage

File Edit Debug Test Workspace Help

InterfaceExample.apex PremiumCustomer.apex normalCustomer.apex Log eventAnonymous @22/02/2023, 14:38:05 Log eventAnonymous @22/02/2023, 14:48:54 Log eventAnonymous @22/02/2023, 14:53:47

Code Coverage: None API Version: 57

```

1 * public class normalCustomer implements InterfaceExample{
2 *     public Double percentageDiscountTobeApplied(){
3 *         return 0.1;
4 *     }
5 *
6 * }

```

Enter Apex Code

```

1 normalCustomer x= new normalCustomer();
2 Double y = x.percentageDiscountTobeApplied();
3 system.debug(y);

```

Open Log Execute Execute Highlighted

Logs Tests Checkpoints Query Editor View State Progress Problems

User	Application	Operation	Time	Status	Read	Size
BALAMAH PIRADULLA	Unknown	/services/data/v57.0/testing/execute...	22/02/2023, 14:53:47	Success		3.81 KB
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:48:54	Success		1.75 KB
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:48:45	Success	Unread	677 bytes
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:46:23	Success	Unread	2.31 KB
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:46:22	Success		476 bytes
BALAMAH PIRADULLA	Unknown	ApexTestHandler	22/02/2023, 14:46:22	Success	Unread	1.75 KB

Filter Click here to filter the log list



Running for iF0p1-dev-ed.trailblaze.my.salesforce.com/\_ui/comm/apex/debug/ApexCSPage

File Edit Debug Test Workspace Help

normalCustomer.apex Log executeAnonymous @22/02/2023, 14:13:05 Log executeAnonymous @22/02/2023, 14:46:54 Log executeAnonymous @22/02/2023, 14:53:47 Log executeAnonymous @22/02/2023, 14:54:36

Executive Log

Timestamp	Event	Details
14:53:47:520	USER_DEBUG	[1]DEBUG[1]

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
BALARAM PIRADOLA	Unknown	/services/data/v57.0/testing/insert...	22/02/2023, 14:54:36	Success		3.79 KB
BALARAM PIRADOLA	Unknown	/services/data/v57.0/testing/insert...	22/02/2023, 14:53:47	Success		3.84 KB
BALARAM PIRADOLA	Unknown	ApexTestHandler	22/02/2023, 14:46:54	Success		5.76 KB
BALARAM PIRADOLA	Unknown	ApexTestHandler	22/02/2023, 14:46:45	Success	Unread	977 bytes
BALARAM PIRADOLA	Unknown	ApexTestHandler	22/02/2023, 14:46:23	Success	Unread	2.31 KB
BALARAM PIRADOLA	Unknown	ApexTestHandler	22/02/2023, 14:46:23	Success	Unread	976 bytes

Filter Click here to filter the log list

## Exercise – 10

### Demo on DML Insert Operation Using Database Methods

Developer Console

Running for iF0p1-dev-ed.trailblaze.my.salesforce.com/\_ui/comm/apex/debug/ApexCSPage

File Edit Debug Test Workspace Help

BillingRecord.apex CustomerTrigger.apex ExecuteTest.apex ExecuteTest.apex DiscountClass.apex Log executeAnonymous @23/02/2023, 15:33:58 Log executeAnonymous @23/02/2023, 15:41:58 Log executeAnonymous @23/02/2023, 15:41:58

Code Coverage: None API Version: 57 Go To

```

1 public class BillingRecord {
2     public static void BillingRecordInsertion(){
3         Customer__c cust = new Customer__c(Name = 'Wipro', Customer_Type__c = 'Premium');
4         insert cust;
5         Id cust_id = cust.Id;
6
7         List<Billing__c> billings = new List<Billing__c>{
8             new Billing__c(Status__c='Paid',Amount_Paid__c =5000000,Customer__c=cust_id)
9         };
10        Database.SaveResult[] srlList= Database.insert(billings,false);
11
12        for(Database.SaveResult li : srlList){
13            if(li.isSuccess()){
14                System.debug('Record Inserted , Billing ID: '+li.getId());
15            }
16            else{
17                for(Database.Error e: li.getErrors()){
18                    System.debug(e.getStatusCode() + ' : ' +e.getMessage());
19                    System.debug('Billing fields which are having errors: '+e.getFields());
20                }
21            }
22        }
23    }
24 }

```

Logs Tests Checkpoints Query Editor View State Progress Problems

User	Application	Operation	Time	Status	Read	Size
BALARAM PIRADOLA	Unknown	/services/data/v57.0/testing/insert...	23/02/2023, 15:41:58	Success		5.46 KB
BALARAM PIRADOLA	Unknown	/services/data/v57.0/testing/insert...	23/02/2023, 15:33:59	Success		6.54 KB
BALARAM PIRADOLA	Unknown	ApexTestHandler	23/02/2023, 15:28:37	Success		2.3 KB
BALARAM PIRADOLA	Unknown	ApexTestHandler	23/02/2023, 15:28:37	Success		5.76 KB
BALARAM PIRADOLA	Unknown	ApexTestHandler	23/02/2023, 15:28:36	Success	Unread	877 bytes
BALARAM PIRADOLA	Unknown	/services/data/v57.0/testing/insert...	23/02/2023, 15:28:05	Apex CPU time limit exceeded	Unread	17.67 MB

Filter Click here to filter the log list

← → cunning-fox-ff0p1-dev-ed.trailblaze.lightning.force.com/lightning/Customer\_\_c/a032w00000uL3XAAU/view

Travel App Chatter Reports Dashboards Departments Travel Approvals Customers \*B - 0009 X

Customer Wipro New Contact Edit New Opportunity

Related Details

Customer Name Wipro	Owner BALARAM PHIRADULA
Active <input type="checkbox"/>	
Customer Type Premium	
Description	
Created By BALARAM PHIRADULA, 23/02/2023, 3:41 pm	Last Modified By BALARAM PHIRADULA, 23/02/2023, 3:41 pm

← → cunning-fox-ff0p1-dev-ed.trailblaze.lightning.force.com/lightning/Billing\_\_c/a047w00000uL4IAAQ/view

Travel App Chatter Reports Dashboards Departments Travel Approvals Customers \*B - 0009 X

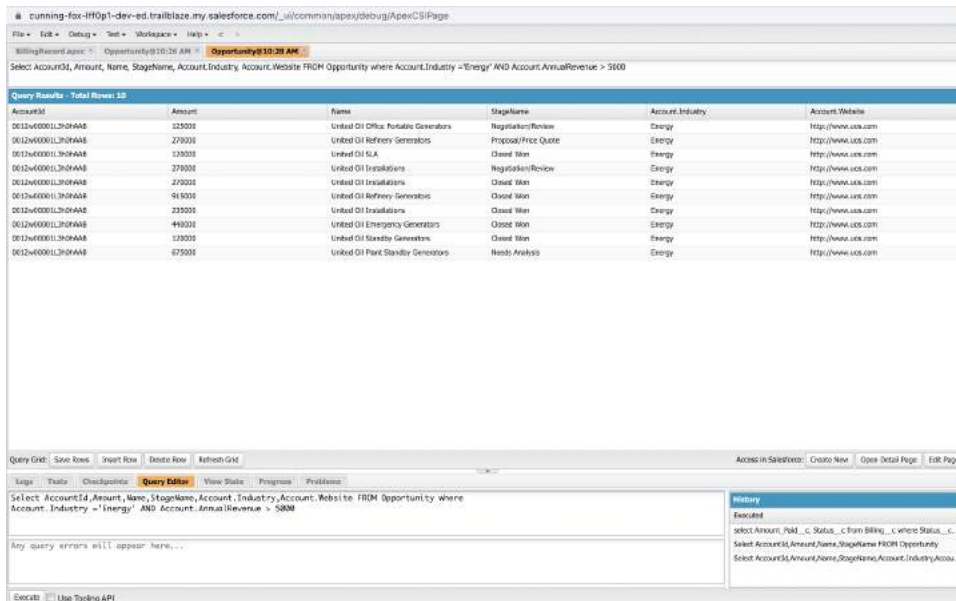
Billing B - 0009 New Contact Edit New Opportunity

Related Details

Bill Number B - 0009	
Amount Paid ₹50,00,000	
Customer Type	
Status Paid	
Customer Wipro	
Created By BALARAM PHIRADULA, 23/02/2023, 3:41 pm	Last Modified By BALARAM PHIRADULA, 23/02/2023, 3:41 pm

## Exercise – 11

### Displaying Records According to the required conditions

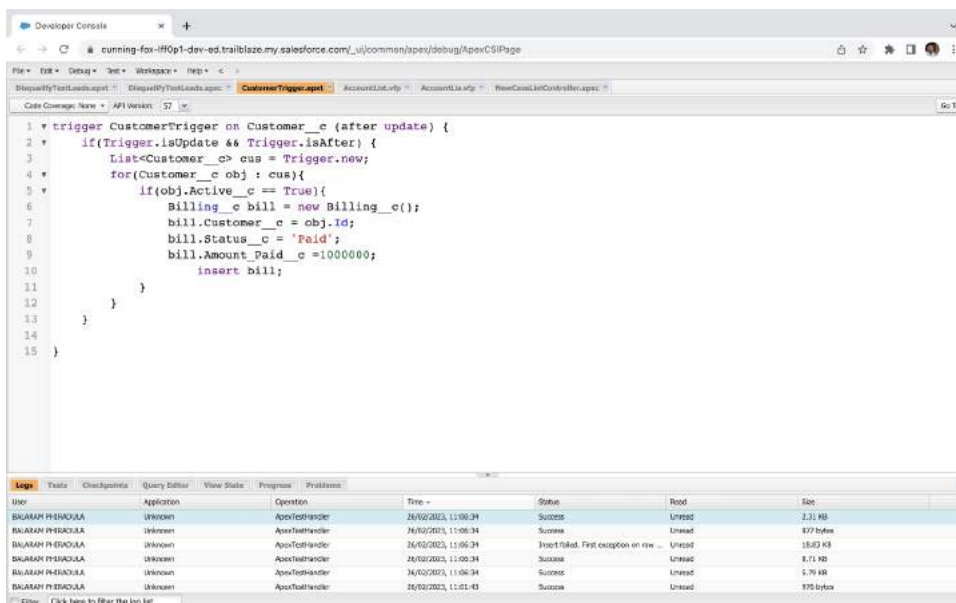


Query Results - Total Rows: 10

AccountId	Amount	Name	StageName	Account.Industry	Account.Website
0012400001130HAA8	125000	United Oil Office Portable Generators	Negotiation/Review	Energy	http://www.uoa.com
0012400001130HAA8	270000	United Oil Refinery Generators	Proposal/Price Quote	Energy	http://www.uoa.com
0012400001130HAA8	120000	United Oil SLA	Closed Won	Energy	http://www.uoa.com
0012400001130HAA8	270000	United Oil Installations	Negotiation/Review	Energy	http://www.uoa.com
0012400001130HAA8	270000	United Oil Installations	Closed Won	Energy	http://www.uoa.com
0012400001130HAA8	915000	United Oil Refinery Generators	Closed Won	Energy	http://www.uoa.com
0012400001130HAA8	235000	United Oil Installations	Closed Won	Energy	http://www.uoa.com
0012400001130HAA8	440000	United Oil Emergency Generators	Closed Won	Energy	http://www.uoa.com
0012400001130HAA8	120000	United Oil Standby Generators	Closed Won	Energy	http://www.uoa.com
0012400001130HAA8	675000	United Oil Plant Standby Generators	Needs Analysis	Energy	http://www.uoa.com

## Exercise – 12

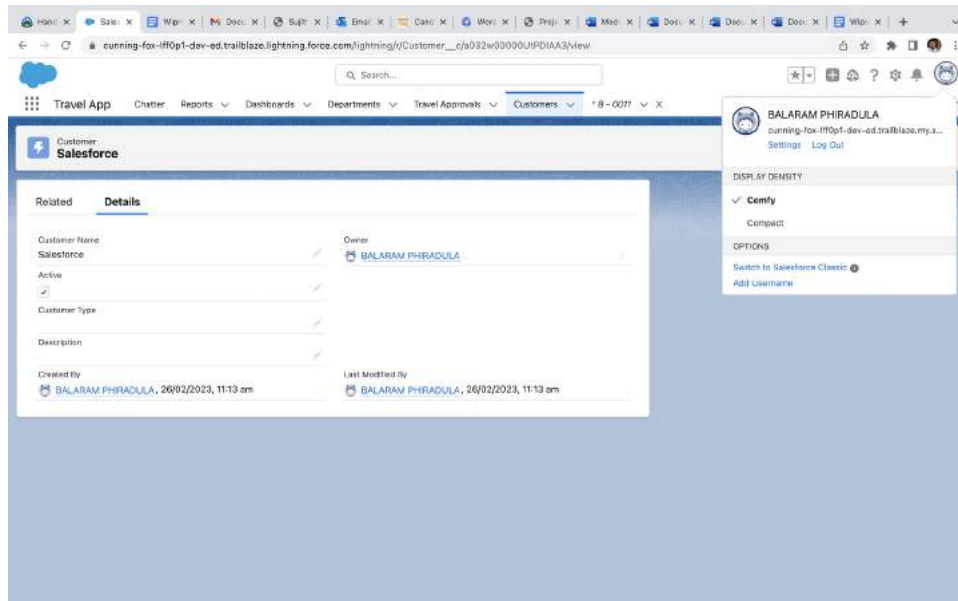
### Created a Trigger for Billing Named CustomerTrigger



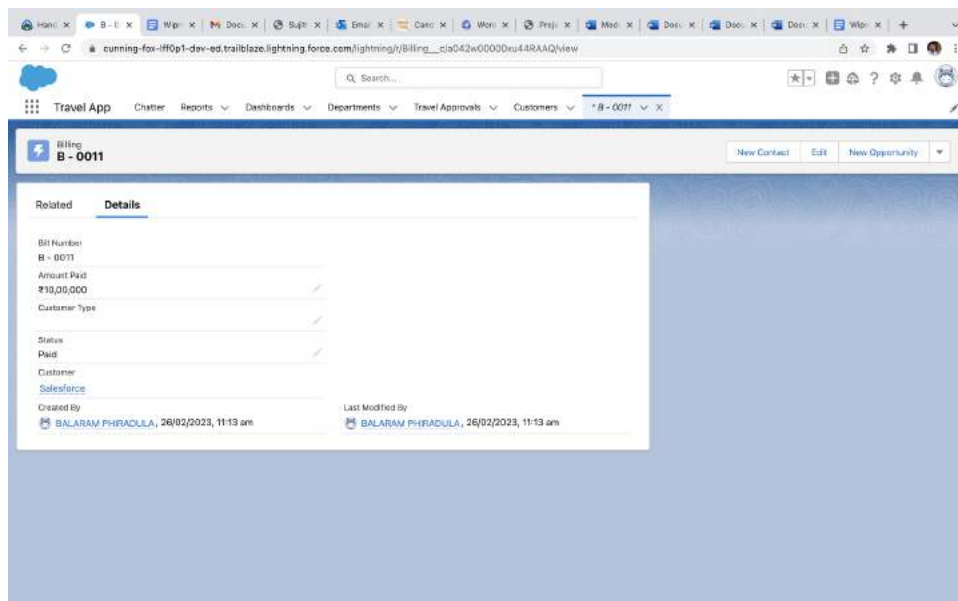
```
1 trigger CustomerTrigger on Customer_c (after update) {
2     if (Trigger.isUpdate && Trigger.isAfter) {
3         List<Customer_c> cus = Trigger.new;
4         for (Customer_c obj : cus) {
5             if (obj.Active_c == True) {
6                 Billing_c bill = new Billing_c();
7                 bill.Customer_c = obj.Id;
8                 bill.Status_c = 'Paid';
9                 bill.Amount_Paid_o = 1000000;
10                insert bill;
11            }
12        }
13    }
14 }
15 }
```

User	Application	Operation	Time	Status	Read	Size
BAJARAN PIRADJALA	Unknown	ApexTestHandler	26/10/2023, 11:06:34	Success	Unread	2.31 KB
BAJARAN PIRADJALA	Unknown	ApexTestHandler	26/10/2023, 11:06:34	Success	Unread	477 bytes
BAJARAN PIRADJALA	Unknown	ApexTestHandler	26/10/2023, 11:06:34	Insert failed. First exception on row ...	Unread	16.83 KB
BAJARAN PIRADJALA	Unknown	ApexTestHandler	26/10/2023, 11:06:34	Success	Unread	8.71 KB
BAJARAN PIRADJALA	Unknown	ApexTestHandler	26/10/2023, 11:06:34	Success	Unread	5.79 KB
BAJARAN PIRADJALA	Unknown	ApexTestHandler	26/10/2023, 11:01:43	Success	Unread	875 bytes

## Updated Salesforce Customer from in active to active



## New Record Created in Billing Object with Salesforce as Customer



## Exercise – 13

### Created a Test class for CustomTrigger

The screenshot shows the Salesforce IDE with a test class named `CustomerTrigger.apex`. The code defines a `CustomerTrigger` class with a `testCustomer()` method. This method creates a `Customer__c` object, inserts it, updates its `Active__c` field to `True`, and then creates a `Billing__c` object, inserting it with a status of `Paid` and an amount of `1000000`. It also includes assertions to verify the status and amount.

```
1  @isTest
2  public class CustomerTrigger {
3
4      @isTest
5      static void testCustomer(){
6          Customer__c cust1 = new Customer__c();
7          cust1.Name='test1';
8          cust1.Customer_Type__c = 'Premium';
9          insert cust1;
10         cust1.Active__c = True;
11         update cust1;
12         if(cust1.Active__c == True){
13             Test.startTest();
14             Billing__c billing = new Billing__c();
15             billing.Status__c = 'Paid';
16             billing.Amount_Paid__c = 1000000;
17             Test.stopTest();
18             system.assertEquals('Paid', billing.Status__c);
19             system.assertEquals(1000000, billing.Amount_Paid__c);
20         }
21     }
22 }
23
```

Below the code editor is a log table with the following data:

User	Application	Operation	Time	Status	Read	Size
BAHARAH PIRAKOLLA	Unknown	ApexTestHandler	24/02/2023, 12:27:03	Success	Unread	8.72 KB
BAHARAH PIRAKOLLA	Unknown	ApexTestHandler	24/02/2023, 12:27:02	Success	Unread	962 bytes
BAHARAH PIRAKOLLA	Unknown	ApexTestHandler	24/02/2023, 12:27:02	Success	Unread	2.31 KB
BAHARAH PIRAKOLLA	Unknown	ApexTestHandler	24/02/2023, 12:27:02	Success	Unread	5.79 KB
BAHARAH PIRAKOLLA	Unknown	ApexTestHandler	24/02/2023, 12:25:41	Success	Unread	3.3 KB
BAHARAH PIRAKOLLA	Unknown	ApexTestHandler	24/02/2023, 12:25:41	Success	Unread	979 bytes

## Exercise – 14

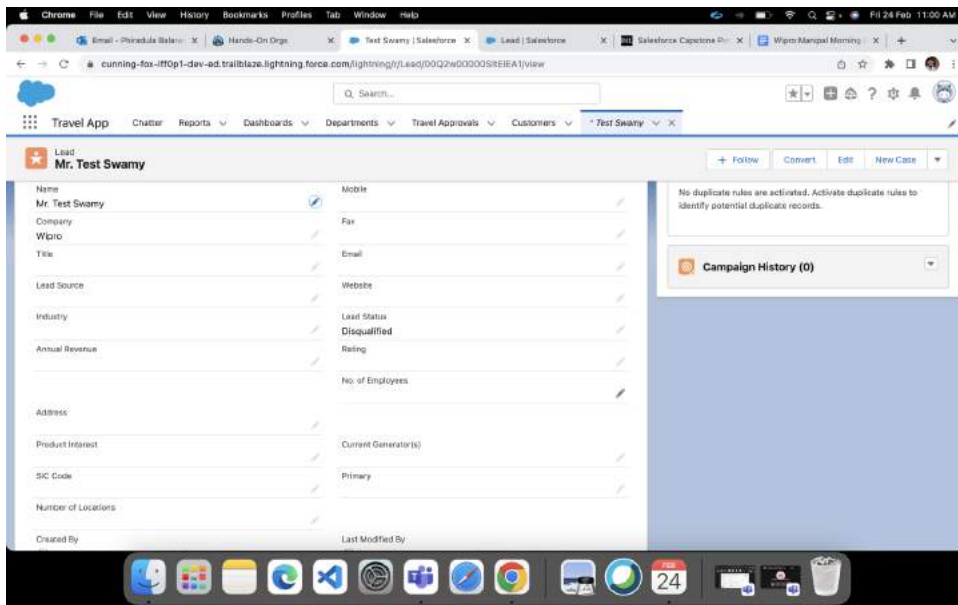
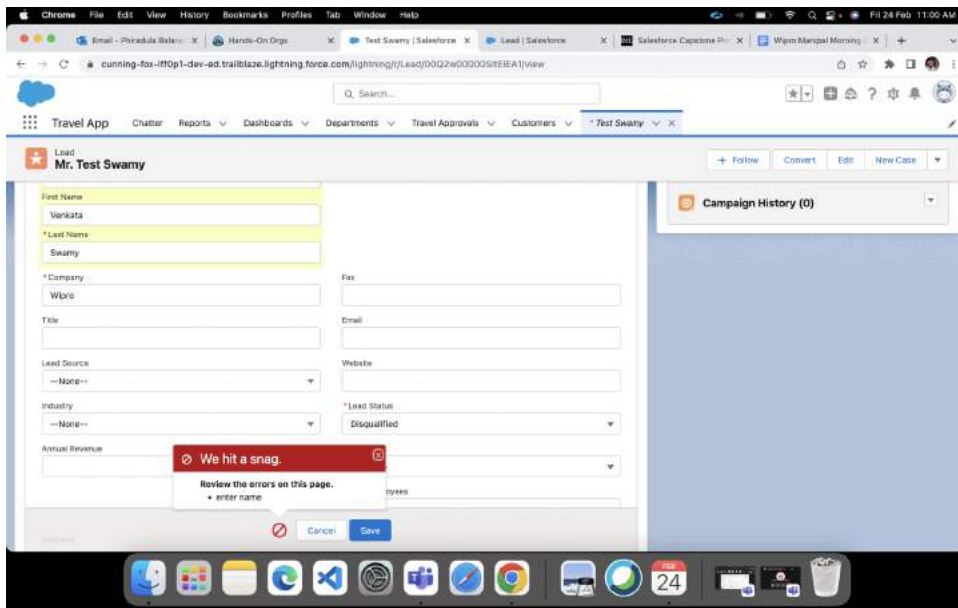
### Created a Trigger for Leads Named DisqualifyTestLeads

The screenshot shows the Salesforce IDE with a trigger named `DisqualifyTestLeads.apex`. The trigger is set to fire on the `Lead` object before insert, after insert, before update, and after update. It checks if the lead's first name is 'Test' or if the last name is blank. If either condition is met, it adds an error message to the lead and sets its status to `Disqualified`.

```
1  trigger DisqualifyTestLeads on Lead (before insert,after insert,before update) {
2      List<Lead> l = new List<Lead>();
3      for(Lead led: Trigger.New){
4          if((String.isNotBlank(led.FirstName) && led.FirstName=='Test') || (String.isNotBlank(led.LastName) && led.LastName==''))
5              system.debug(led.FirstName + ' ' + led.LastName + ' Will be disqualified');
6
7          l.add(led);
8      }
9
10     else
11     {
12         led.AddError('enter name');
13     }
14     for(Lead ll:l){
15         ll.Status='Disqualified';
16     }
17 }
18
19
20 }
```

Below the code editor is a log table with the following data:

User	Application	Operation	Time	Status	Read	Size
BAHARAH PIRAKOLLA	Browser	Java	24/02/2023, 10:52:32	Success	Unread	5.52 KB
BAHARAH PIRAKOLLA	Browser	Java	24/02/2023, 10:52:16	Success	Unread	3.96 KB
BAHARAH PIRAKOLLA	Browser	Java	24/02/2023, 10:50:56	Success	Unread	4.2 KB
BAHARAH PIRAKOLLA	Browser	Java	24/02/2023, 10:50:55	Success	Unread	6.6 KB
BAHARAH PIRAKOLLA	Unknown	ApexTestHandler	24/02/2023, 10:50:39	Success	Unread	3.3 KB
BAHARAH PIRAKOLLA	Unknown	ApexTestHandler	24/02/2023, 10:50:23	Success	Unread	877 bytes



Created a test class for DisqualifyTestLeads trigger

The screenshot displays the Salesforce IDE with the following components:

- File Explorer (Top Left):** Shows the project structure with files like `DisqualifyTestLeads.apex`.
- Code Editor (Center):** Contains the Java code for `DisqualifyTestLeads`.
 

```

1  @isTest
2  public class DisqualifyTestLeads {
3      @isTest
4      private static void insertData1(){
5          Lead l1 = new Lead();
6          l1.FirstName = 'Test';
7          l1.LastName = 'Test';
8          l1.Company = 'Test';
9          Test.startTest();
10         insert l1;
11         Test.stopTest();
12         System.assertEquals('Test', l1.FirstName);
13         System.assertEquals('Test', l1.LastName);
14         System.assertEquals('Test', l1.Company);
15     }
16     @isTest
17     private static void insertData2(){
18         Lead l2 = new Lead();
19         l2.LastName = 'Test';
20         l2.Company = 'Wipro';
21         Test.startTest();
22         insert l2;
      
```
- Test Run Results (Bottom):**
  - Test Run:** Shows a single test run for `DisqualifyTestLeads` at 11:00:09 AM, which passed.
  - Overall Code Coverage:**

Class	Percent	Lines
DisqualifyTestLeads	100%	2/2
NormalCustomer	0%	0/4

Created a Visualforce Page OppView and displayed four apex: outputfields

The screenshot shows two panels from Visual Studio Code:

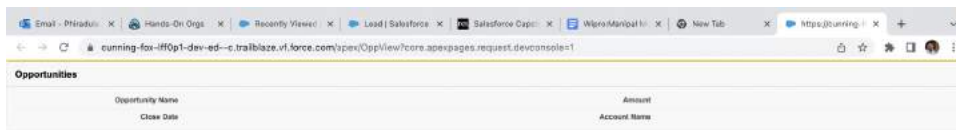
**Top Panel (Apex Editor):**

```
<apex:page standardController='Opportunity' >  
    <apex:pageBlock title='Opportunities'>  
        <apex:pageBlockSection>  
            <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>
```

**Bottom Panel (Execution Results):**

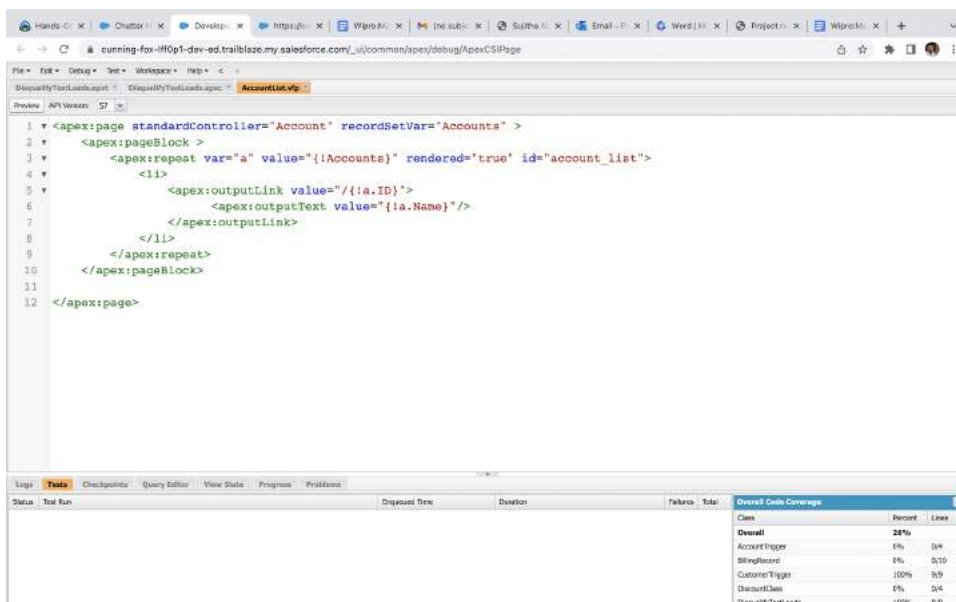
User	Type	Checkpoint	Query Editor	View State	Progress	Problems
	Application	Operation	Time -	Status	Read	Size
BALARAH PERBACULA	Browser	/apex/opposite	24/02/2023, 11:21:59	Success	Unread	1.17 KB
BALARAH PERBACULA	Browser	/apex/opposite	24/02/2023, 11:21:54	Success	Unread	1.17 KB
BALARAH PERBACULA	Browser	/apex/opposite	24/02/2023, 11:21:12	Success	Unread	1.17 KB
BALARAH PERBACULA	Browser	/apex/opposite	24/02/2023, 11:20:34	Success	Unread	1.17 KB
BALARAH PERBACULA	Browser	/apex/opposite	24/02/2023, 11:20:49	Success	Unread	1.17 KB
BALARAH PERBACULA	Browser	/apex/opposite	24/02/2023, 11:20:45	Success	Unread	1.17 KB

A link at the bottom left says "Click here to filter the log list".



## Exercise – 17

Created a Visualforce page that shows a list of Accounts linked to their record pages





## Exercise – 18

Created a Vf page that uses an Apex class to display a list of cases with the status of 'New'.

The screenshot shows the Salesforce Developer Console interface. The top section displays the Apex code for the `NewCaseListController` class, which includes a `list<case>` variable and a `GetNewCase()` method. The bottom section shows a table of recent log entries with columns for User, Application, Operation, Time, Status, Detail, and Size.

User	Application	Operation	Time	Status	Detail	Size
BAKARAN P HADJALA	Unknown	ApexTestHandler	26/02/2023, 11:00:34	Success	Unread	2.21 KB
BAKARAN P HADJALA	Unknown	ApexTestHandler	26/02/2023, 11:00:34	Success	Unread	877 bytes
BAKARAN P HADJALA	Unknown	ApexTestHandler	26/02/2023, 11:00:34	Insert failed. First exception on row ...	Unread	15.83 KB
BAKARAN P HADJALA	Unknown	ApexTestHandler	26/02/2023, 11:00:34	Success	Unread	8.71 KB
BAKARAN P HADJALA	Unknown	ApexTestHandler	26/02/2023, 11:00:34	Success	Unread	5.79 KB
BAKARAN P HADJALA	Unknown	ApexTestHandler	26/02/2023, 11:01:43	Success	Unread	875 bytes

Developer Console

https://cunning-fox-ff0p1-dev-ed.trailblaze.my.salesforce.com/\_ui/commen/apex/debug/ApexCSIPage

File Edit View Help

Developer Console

API Version: 57

```

1 <apex:page controller="NewCaseListController" >
2   <apex:repeat var="case" value="{!NewCase}">
3     <li>
4       <apex:outputLink value="{!case.id}"> {!case.id}
5     </apex:outputLink>
6     {!case.CaseNumber}
7   </li>
8 </apex:repeat>
9 </apex:page>

```

Logs

User	Application	Operation	Time	Status	Read	Size
BAJAMH P BHADJULA	Browser	Apex/NewCaseListController	25/10/2023, 10:30:53	Success	Unread	3.49 KB
BAJAMH P BHADJULA	Browser	Apex/NewCaseListController	25/10/2023, 10:30:53	Success	Unread	3.47 KB
BAJAMH P BHADJULA	Browser	Apex/NewCaseListController	25/10/2023, 10:30:54	Success	Unread	3.47 KB
BAJAMH P BHADJULA	Unknown	ApexTestHandler	25/10/2023, 10:30:42	Success	Unread	8.73 KB
BAJAMH P BHADJULA	Unknown	ApexTestHandler	25/10/2023, 10:30:43	Success	Unread	5.76 KB
BAJAMH P BHADJULA	Unknown	ApexTestHandler	25/10/2023, 10:30:42	Success	Unread	989 bytes

Filter Click here to filter the log list

Developer Console

https://cunning-fox-ff0p1-dev-ed-trailblaze.vf.force.com/servlet/apex/NewCaseListController?core.apexpages.request.devconsole=1

File Edit View Help

Developer Console

API Version: 57

- 5002w00000fh0qNAAQ 00001002
- 5002w00000fh0qbAAA 00001016
- 5002w00000fh0qjAAA 00001024



# 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](#)