Capstone Project Report
On
"**Travel App & Code Playground App**"

Submitted by:

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Batch: Wipro Salesforce B13 (WIP-SF-13)
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Date: 27/02/2023
GitHub: https://github.com/lavneesh007/Capstone_MGSA_507_Lavneesh_Saini.git

Table of contents

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 this Project we work on the Creation of the Travel App, with custom Objects and fields and Flows to Automate the process of records, the Creation of the Approval process, modifying the user interface, and creating reports and dashboards for analytics purposes.
In this Project, we also develop the Code Playground app through a coding approach, by using Apex Classes and Triggers we extend the functional capabilities of the App.

Introduction

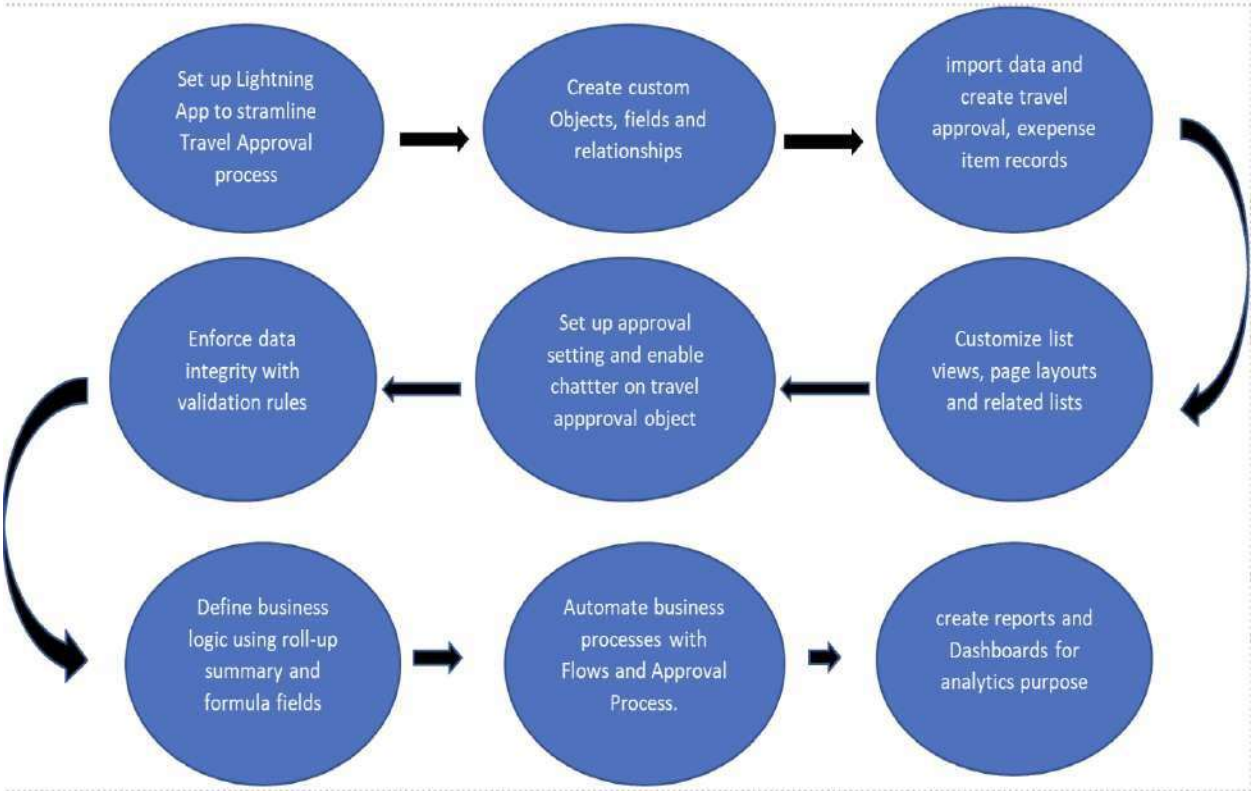
Salesforce is a cloud-based software company that provides its customers with a platform to develop their own applications without following the tough steps that they used to follow in the legacy system. The software or application once created can be uploaded onto the cloud allowing the end-users to 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 150ms 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 200ms or less
- Download speed of 1 Mbps or greater
- At least 5 GB of RAM, with 2 GB available for Salesforce browser tabs

OR

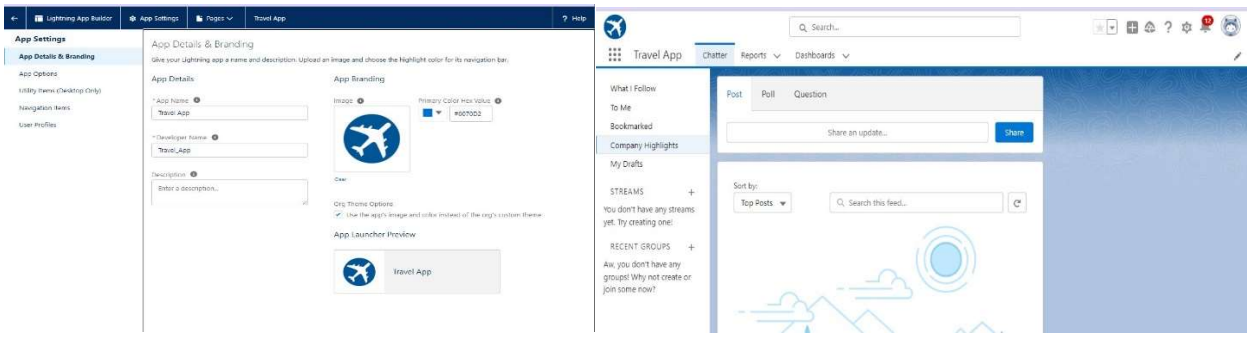
Requirements	
Windows	
Operating system	Windows 8.1 64-bit, Windows 8 64-bit, Windows 7 Service Pack 1 64-bit, Windows Vista Service Pack 2 64-bit
CPU	Core 2 Quad Q6600 at 2.4 GHz or AMD Phenom 9850 at 2.5 GHz
Memory	4 GB RAM
Free space	65 GB of free space
Graphics hardware	DirectX 10-compatible GPU: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

Screenshots

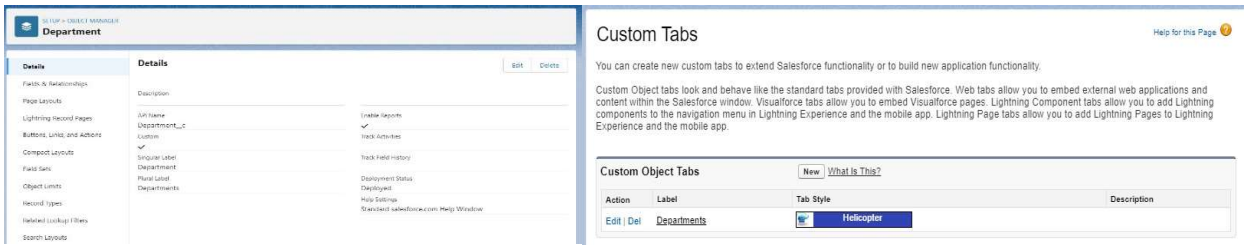
Module 1:

Exercise 1

Step 1:



Step 2:



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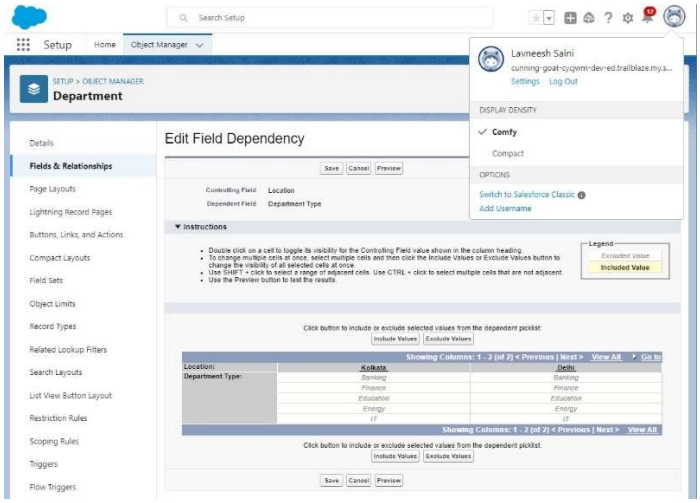
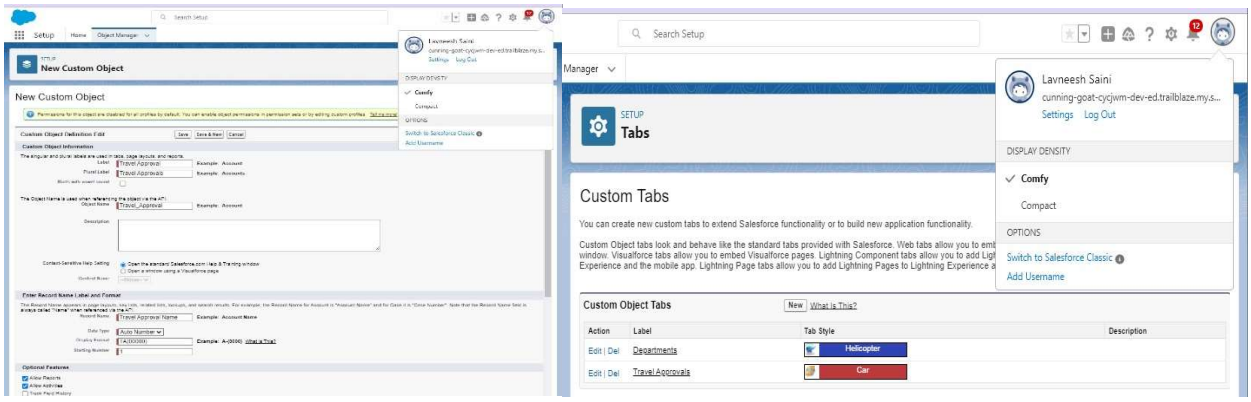
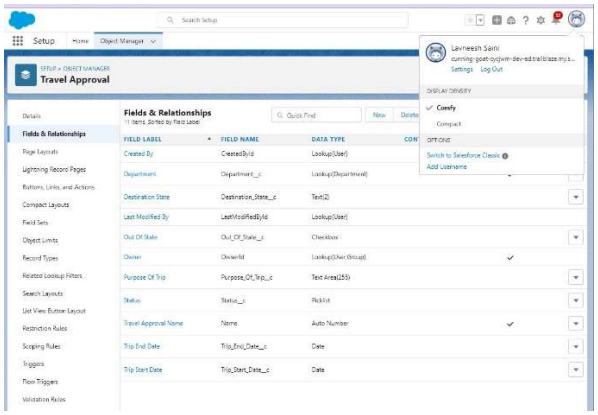
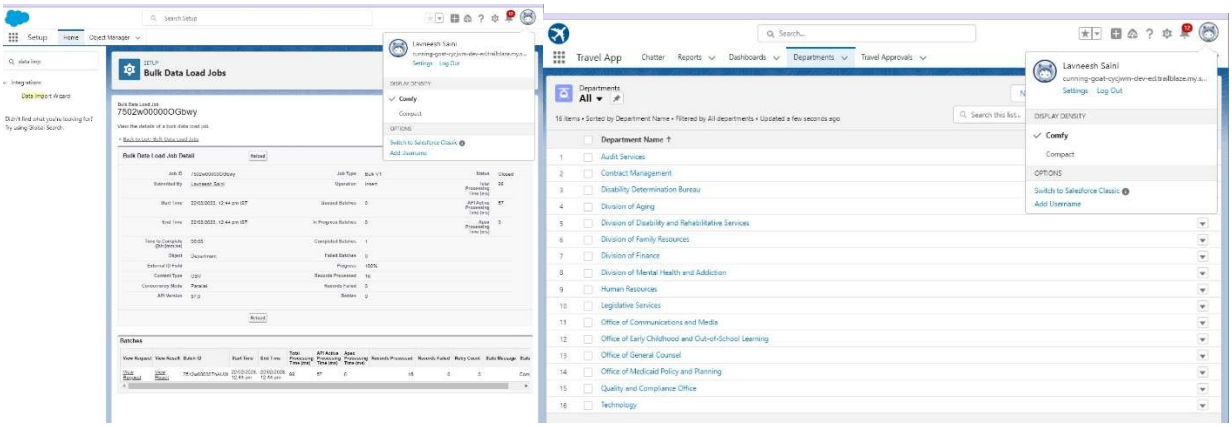


Step 4:


New Custom Object
Tabs
Custom Tabs
Custom Object Tabs
Action
Label
Tab Style
Description
Edit | Del
Departments
Helicopter
Travel Approvals
Car
Lavneesh Saini
Settings
Log Out
DISPLAY DENSITY
Comfy
Compact
OPTIONS
Switch to Salesforce Classic
Add Username

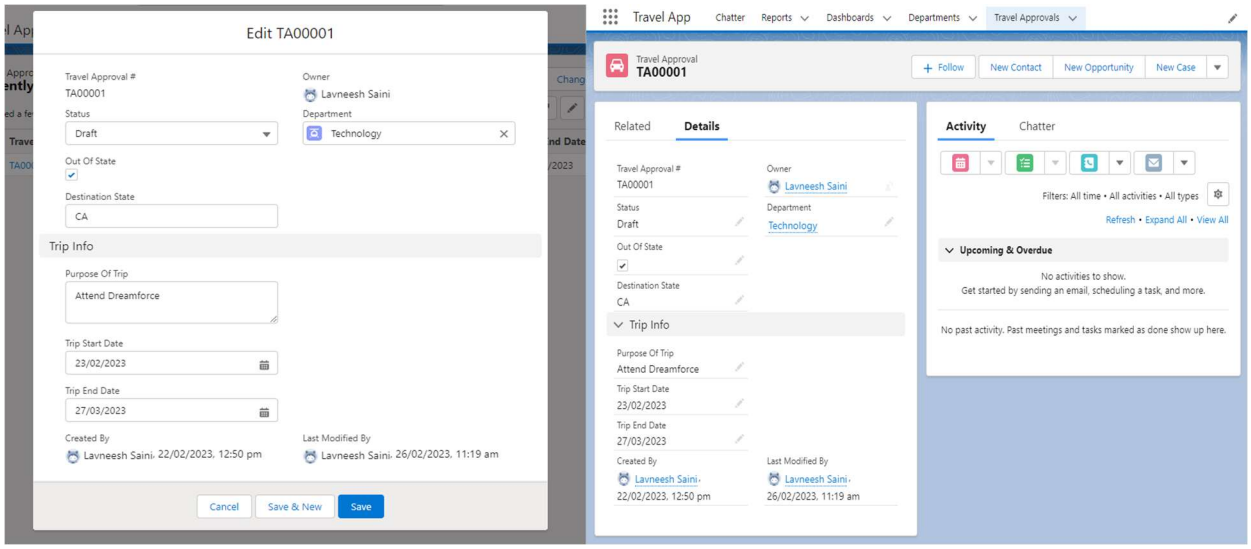

Travel Approval
Fields & Relationships
FIELD LABEL
FIELD NAME
DATA TYPE

Step 5:

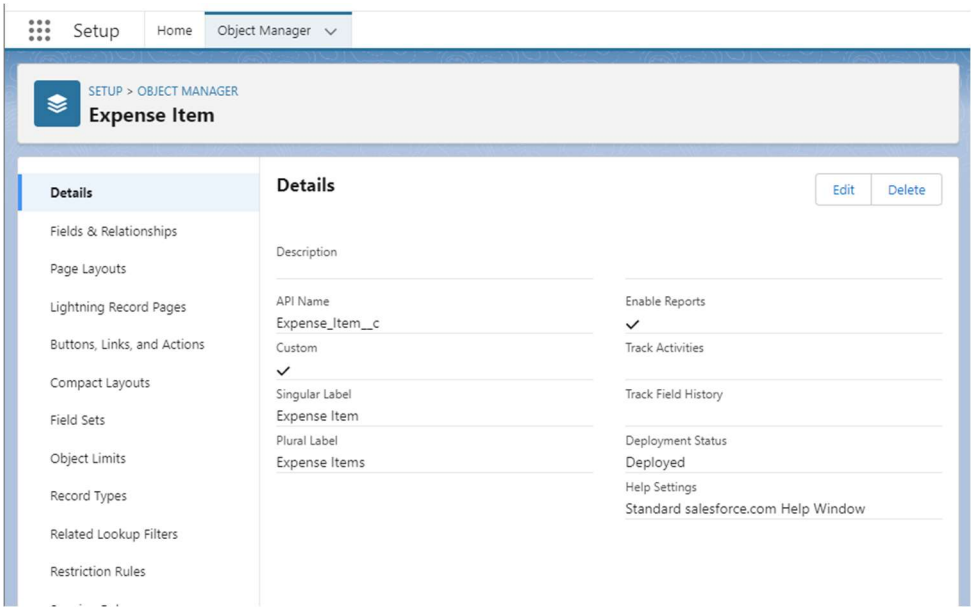

Bulk Data Load Jobs
Travel App
Departments
Audit Services
Contract Management
Disability Determination Bureau
Division of Aging
Division of Disability and Rehabilitative Services
Division of Family Resources
Division of Finance
Division of Mental Health and Addiction
Human Resources
Legislative Services
Office of Communications and Media
Office of Early Childhood and Out-of-School Learning
Office of General Counsel
Office of Medicaid Policy and Planning
Quality and Compliance Office
Technology

Exercise 2:

Step 1:



Step 2:



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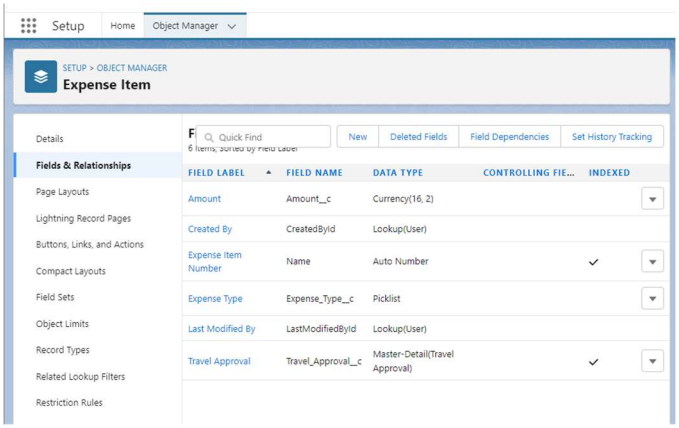

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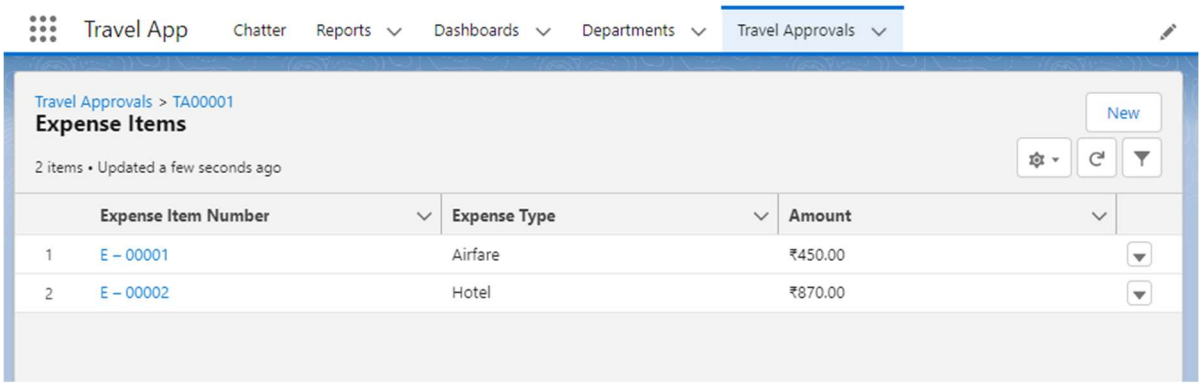

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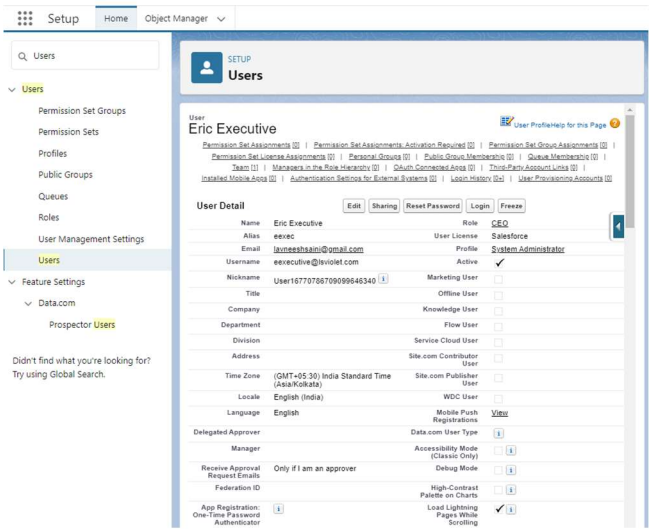
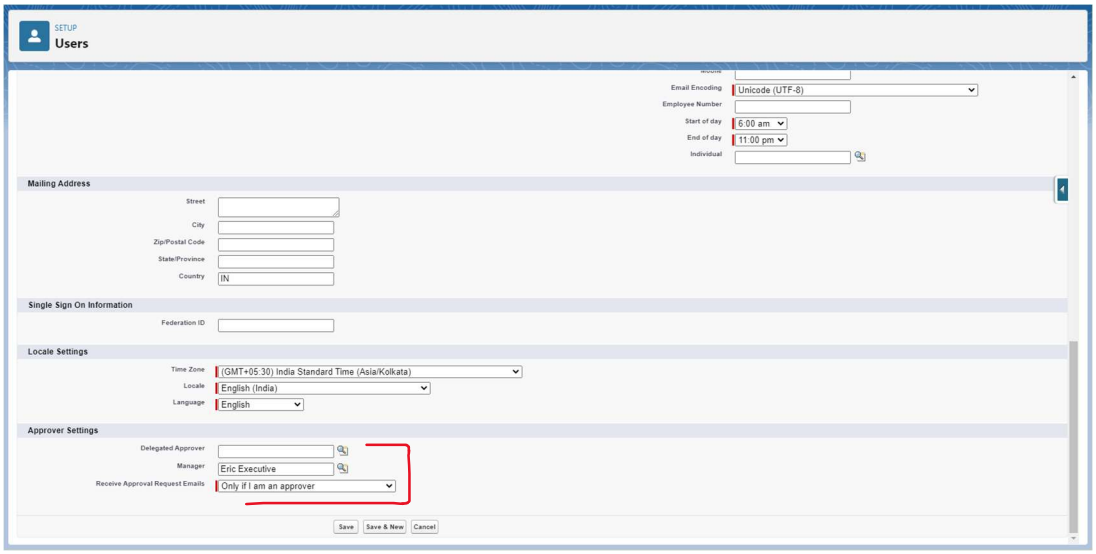
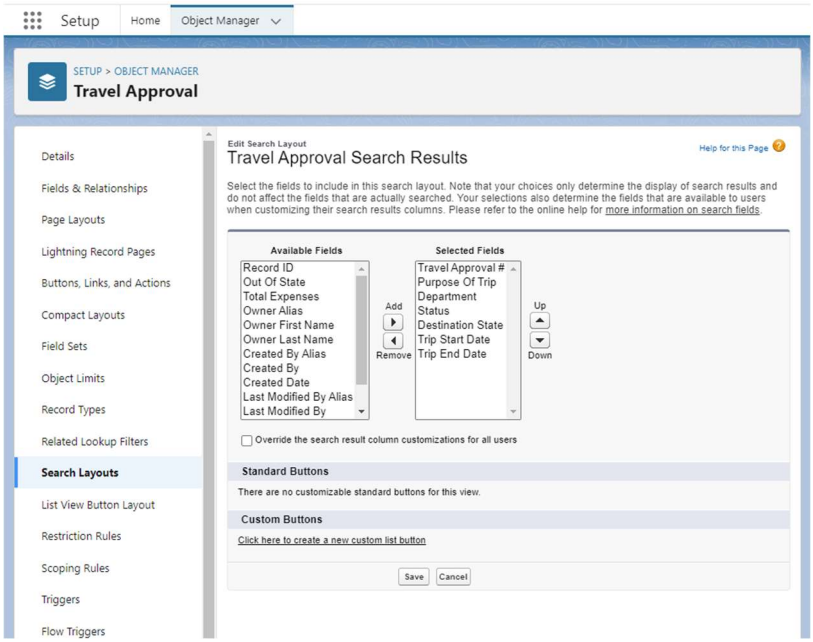


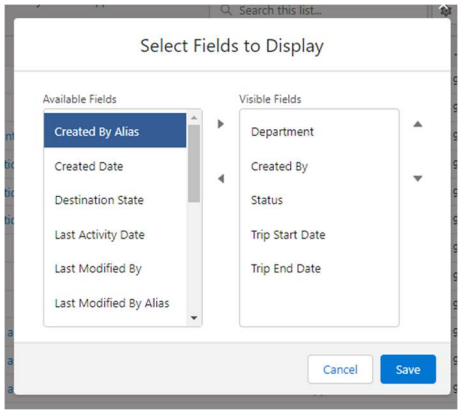
Step 6:


SETUP
Users
Email Encoding
Unicode (UTF-8)
Employee Number
Start of day
6:00 am
End of day
11:00 pm
Individual
Mailing Address
Street
City
Zip/Postal Code
State/Province
Country
IN
Single Sign On Information
Federation ID
Locale Settings
Time Zone
(GMT+05:30) India Standard Time (Asia/Kolkata)
Locale
English (India)
Language
English
Approver Settings
Delegated Approver
Manager
Eric Executive
Receive Approval Request Emails
Only if I am an approver
Save
Save & New
Cancel

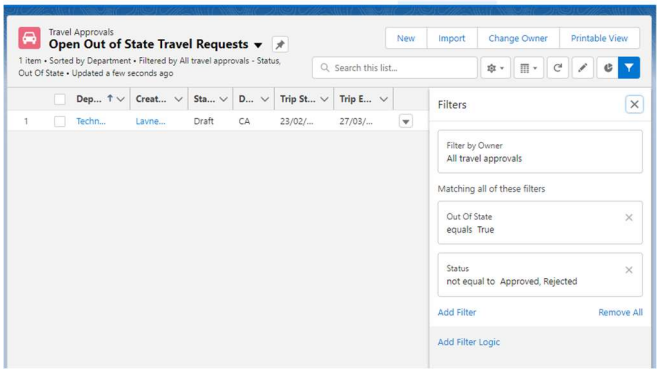
Step 7:


Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Travel Approval
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Scoping Rules
Triggers
Flow Triggers
Edit Search Layout
Travel Approval Search Results
Help for this Page
Select the fields to include in this search layout. Note that your choices only determine the display of search results and do not affect the fields that are actually searched. Your selections also determine the fields that are available to users when customizing their search results columns. Please refer to the online help for more information on search fields.
Available Fields
Record ID
Out Of State
Total Expenses
Owner Alias
Owner First Name
Owner Last Name
Created By Alias
Created By
Created Date
Last Modified By Alias
Last Modified By
Add
Remove
Selected Fields
Travel Approval #
Purpose Of Trip
Department
Status
Destination State
Trip Start Date
Trip End Date
Up
Down
Override the search result column customizations for all users
Standard Buttons
There are no customizable standard buttons for this view.
Custom Buttons
Click here to create a new custom list button
Save
Cancel

Step 8:



Step 9:



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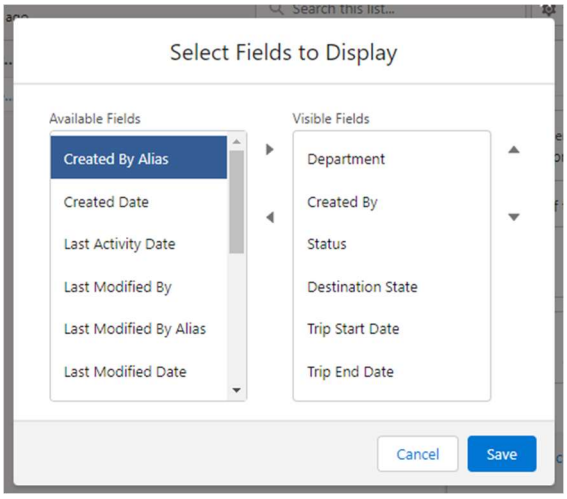
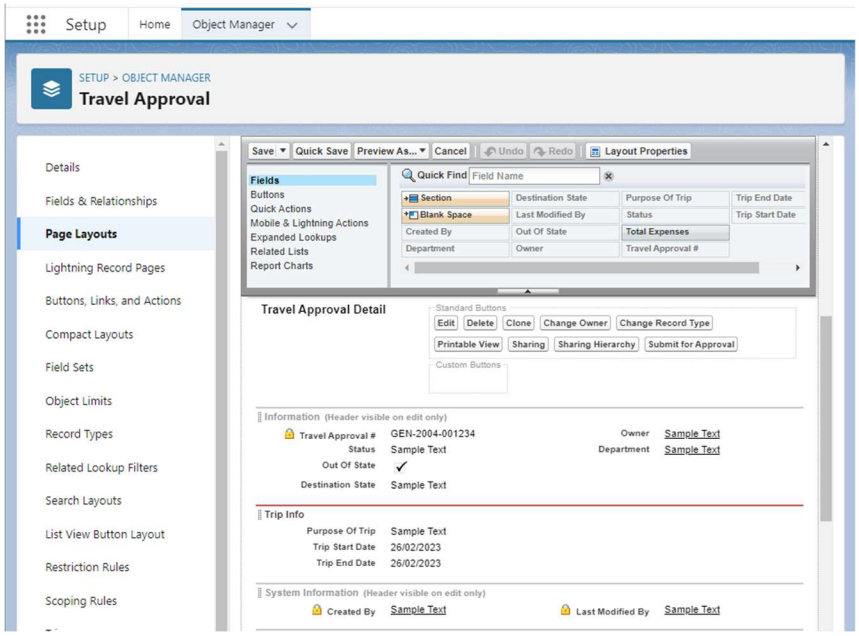
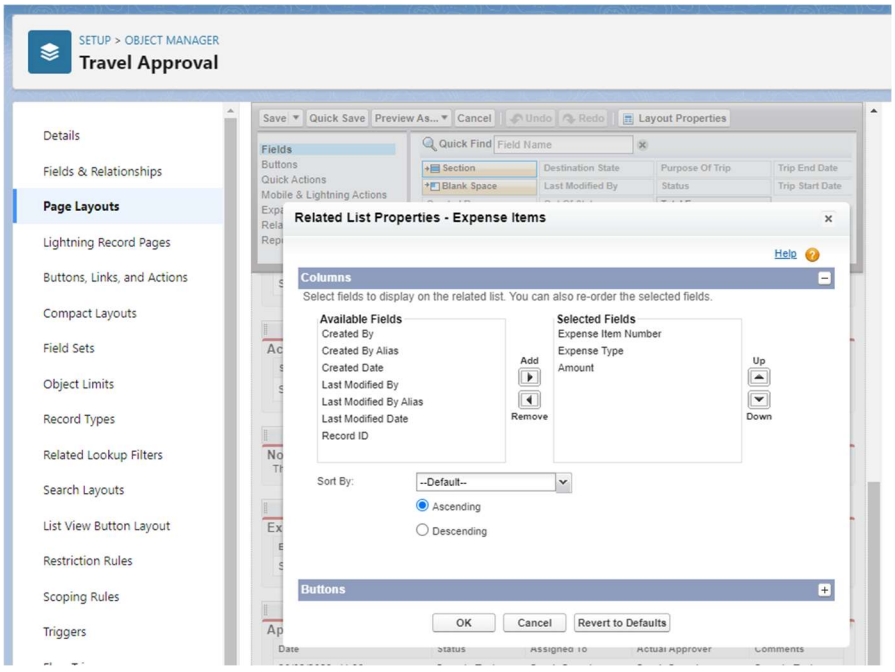


Step 11:



Step 12:



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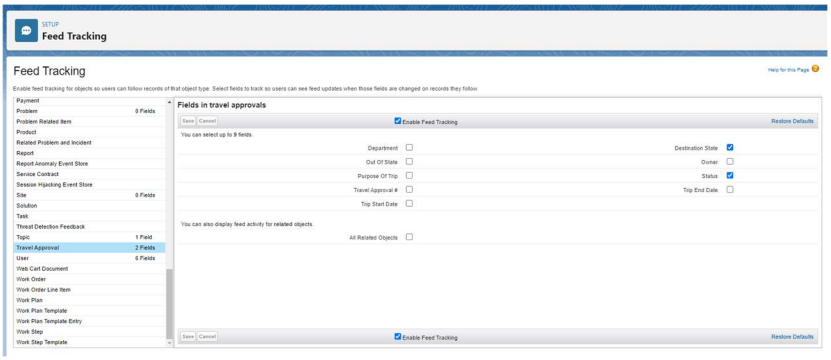
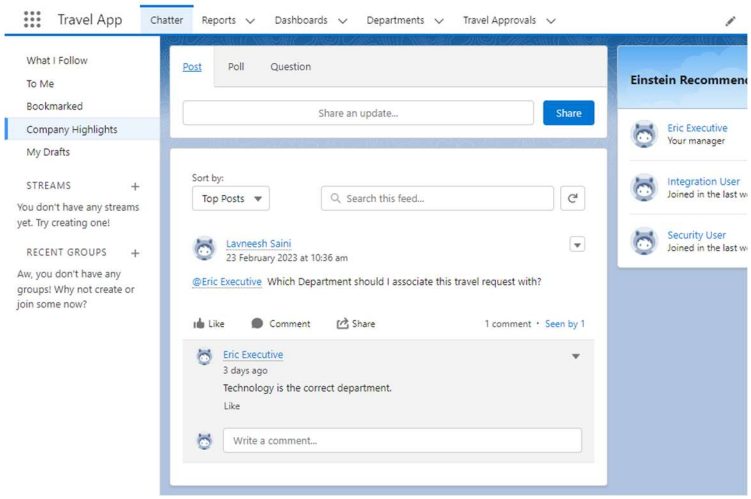
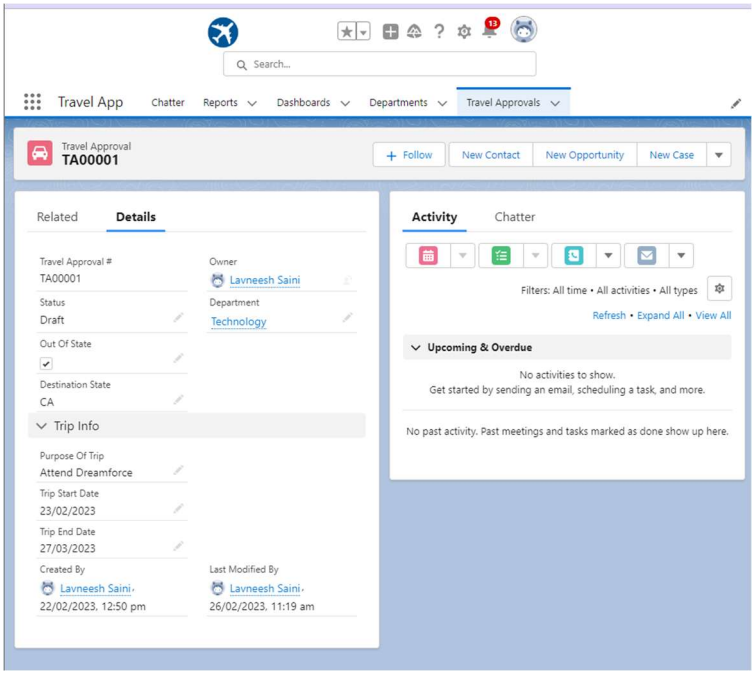

SETUP
Feed Tracking
Feed Tracking
Fields in travel approvals
Enable Feed Tracking
Restore Defaults
Department
Out Of State
Purpose Of Trip
Travel Approval #
Trip Start Date
Destination State
Owner
Status
Trip End Date
All Related Objects
Save
Cancel

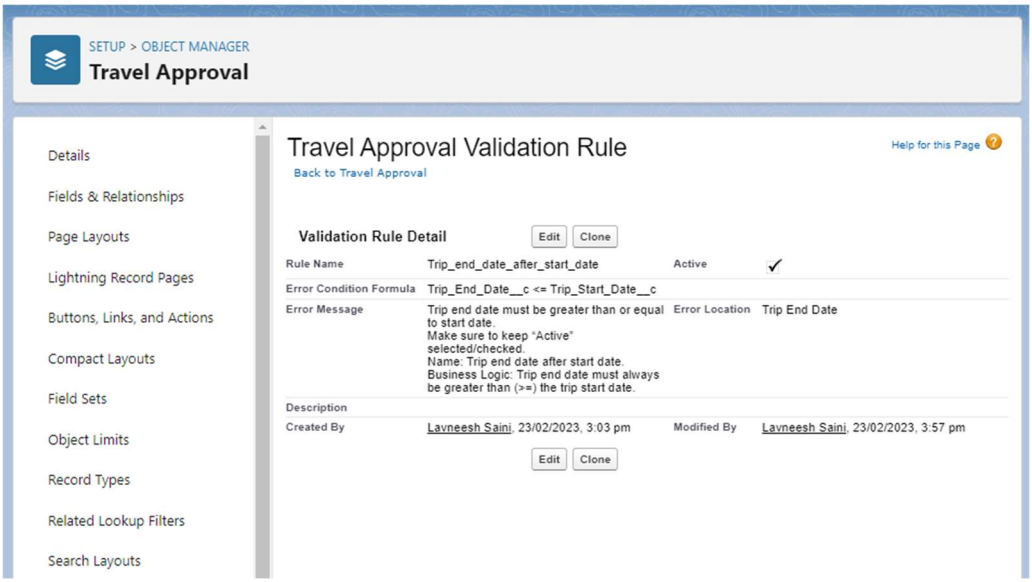

Travel App
Chatter
Reports
Dashboards
Departments
Travel Approvals
What I Follow
To Me
Bookmarked
Company Highlights
My Drafts
STREAMS
You don't have any streams yet. Try creating one!
RECENT GROUPS
Aw, you don't have any groups! Why not create or join some now?
Post
Poll
Question
Share an update...
Share
Sort by:
Top Posts
Search this feed...
Lavneesh Saini
23 February 2023 at 10:36 am
@Eric Executive Which Department should I associate this travel request with?
Like
Comment
Share
1 comment • Seen by 1
Eric Executive
3 days ago
Technology is the correct department.
Like
Write a comment...
Einstein Recommen
Eric Executive
Your manager
Integration User
Joined in the last w
Security User
Joined in the last w


Search...
Travel App
Chatter
Reports
Dashboards
Departments
Travel Approvals
Travel Approval
TA00001
Follow
New Contact
New Opportunity
New Case
Related
Details
Travel Approval #
TA00001
Owner
Lavneesh Saini
Status
Draft
Department
Technology
Out Of State
Destination State
CA
Trip Info
Purpose Of Trip
Attend Dreamforce
Trip Start Date
23/02/2023
Trip End Date
27/03/2023
Created By
Lavneesh Saini,
22/02/2023, 12:50 pm
Last Modified By
Lavneesh Saini,
26/02/2023, 11:19 am
Activity
Chatter
Filters: All time • All activities • All types
Refresh • Expand All • View All
Upcoming & Overdue
No activities to show.
Get started by sending an email, scheduling a task, and more.
No past activity. Past meetings and tasks marked as done show up here.

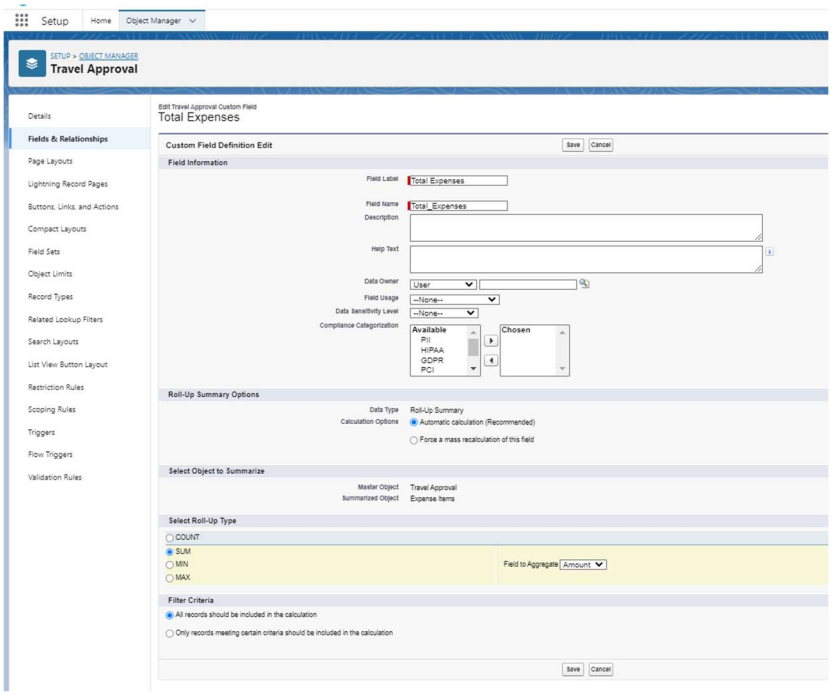
Module 2:

Exercise 1:

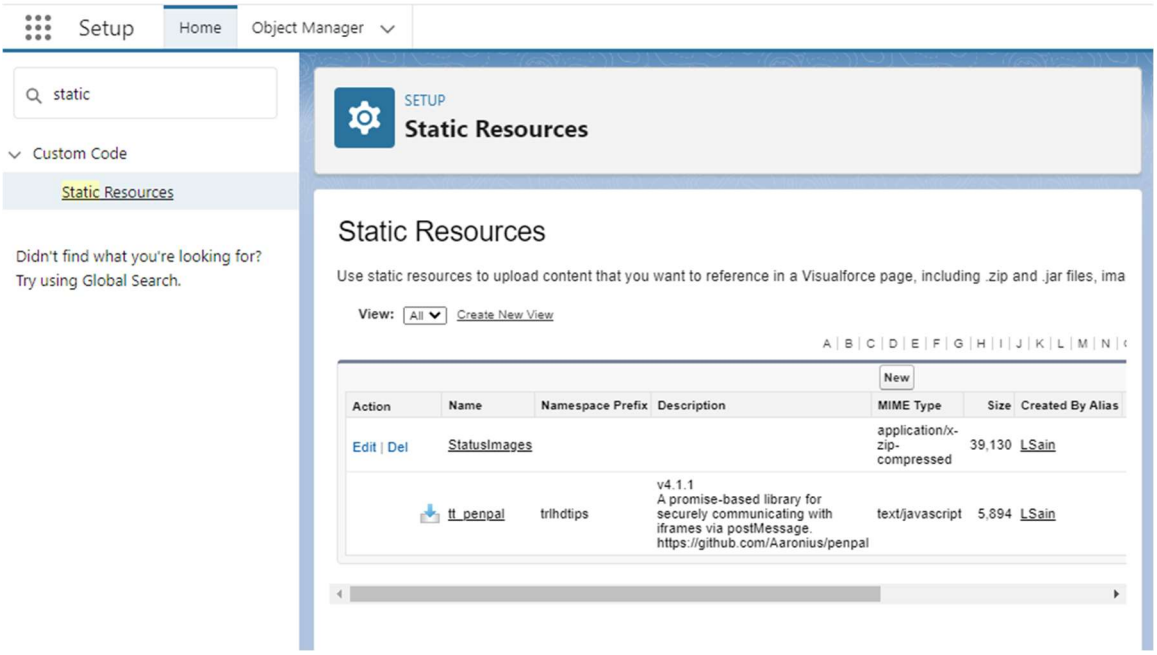
Step 1:



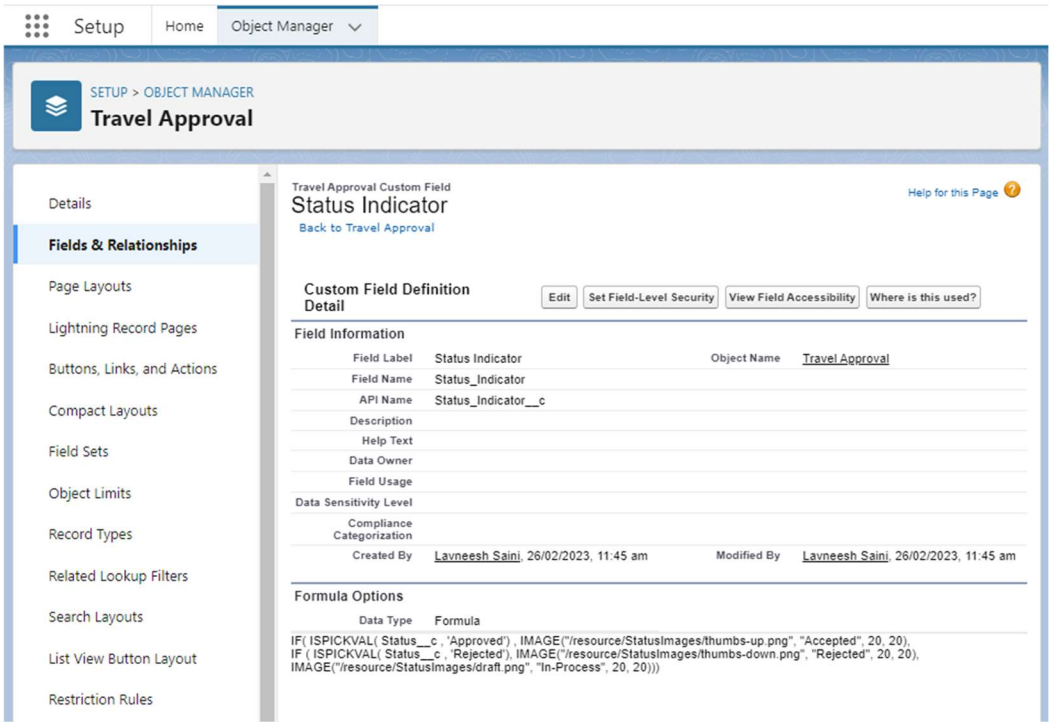
Step 2:



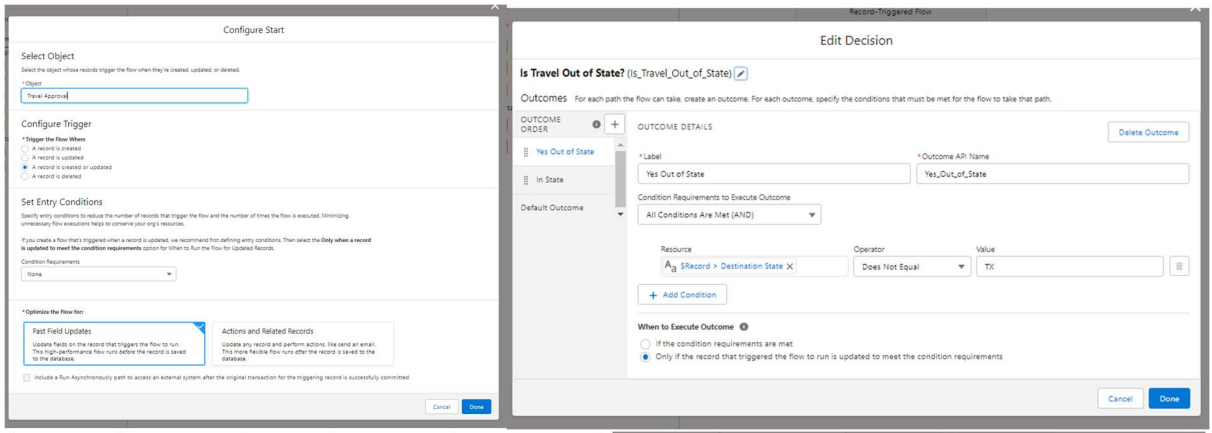
Step 3:

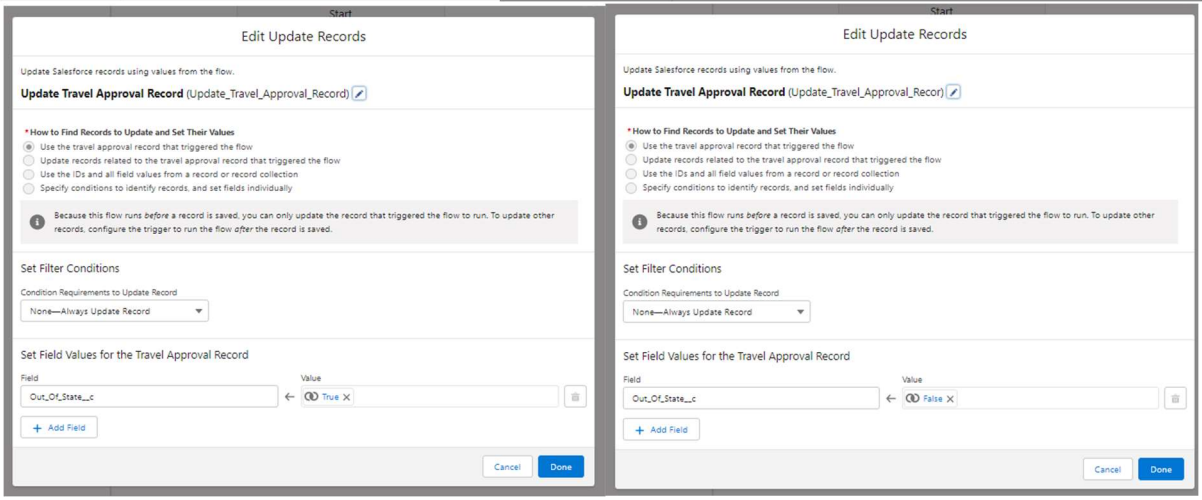

Setup
Home
Object Manager
static
Custom Code
Static Resources
Didn't find what you're looking for?
Try using Global Search.
SETUP
Static Resources
Static Resources
Use static resources to upload content that you want to reference in a Visualforce page, including .zip and .jar files, ima
View: All
Create New View
A | B | C | D | E | F | G | H | I | J | K | L | M | N
New
Action
Name
Namespace Prefix
Description
MIME Type
Size
Created By Alias
Edit | Del
StatusImages
application/x-zip-compressed
39,130
LSain
tt_penpal
trlhdtips
v4.1.1
A promise-based library for securely communicating with iframes via postMessage.
https://github.com/Aaronius/penpal
text/javascript
5,894
LSain

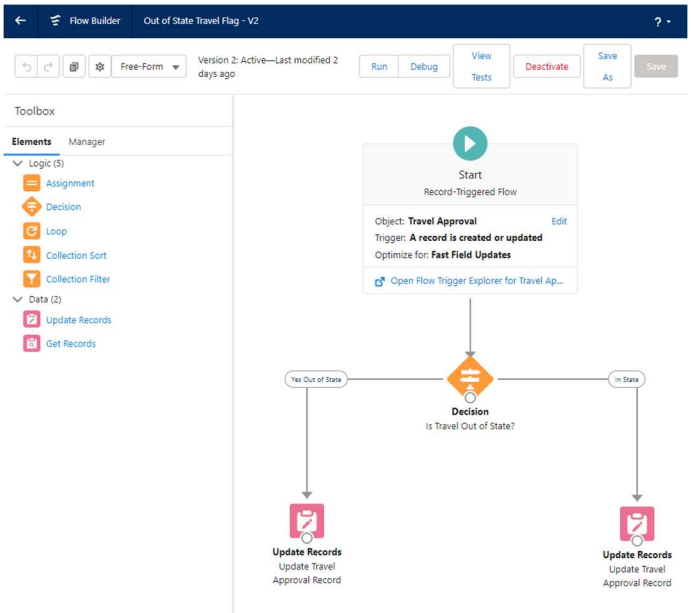
Step 4:


Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Travel Approval
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Travel Approval Custom Field
Status Indicator
Back to Travel Approval
Help for this Page
Custom Field Definition Detail
Edit
Set Field-Level Security
View Field Accessibility
Where is this used?
Field Information
Field Label
Status Indicator
Object Name
Travel Approval
Field Name
Status_Indicator
API Name
Status_Indicator__c
Description
Help Text
Data Owner
Field Usage
Data Sensitivity Level
Compliance Categorization
Created By
Lavneesh Saini, 26/02/2023, 11:45 am
Modified By
Lavneesh Saini, 26/02/2023, 11:45 am
Formula Options
Data Type
Formula
IF(ISPICKVAL(Status__c , 'Approved') , IMAGE("/resource/StatusImages/thumbs-up.png", "Accepted", 20, 20),
IF (ISPICKVAL(Status__c , 'Rejected'), IMAGE("/resource/StatusImages/thumbs-down.png", "Rejected", 20, 20),
IMAGE("/resource/StatusImages/draft.png", "In-Process", 20, 20)))

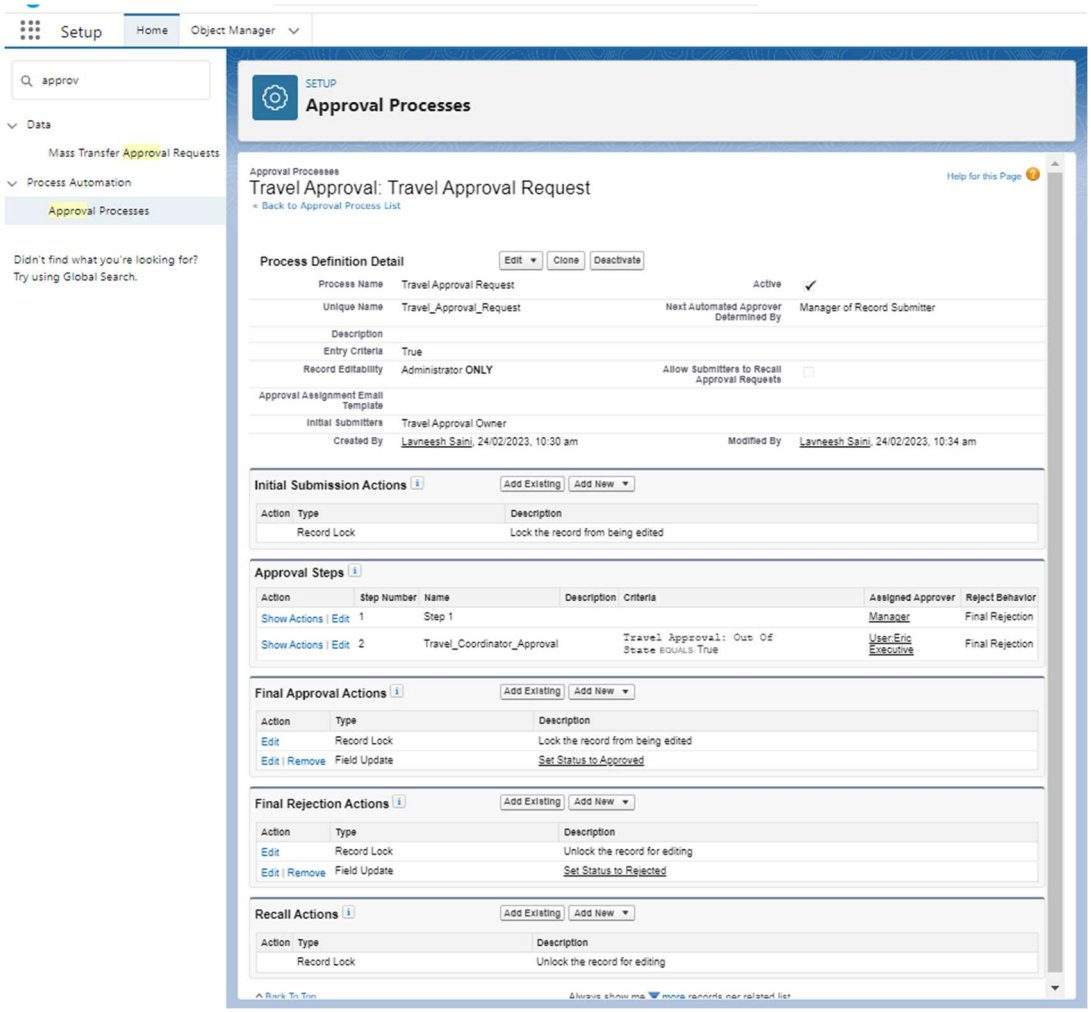
Step 5:


Configure Start
Select Object
Configure Trigger
Set Entry Conditions
Edit Decision
Is Travel Out of State? (Is_Travel_Out_of_State)
Outcomes
Yes Out of State
In State
Default Outcome
Delete Outcome
Add Condition
Cancel
Done


Edit Update Records
Update Travel Approval Record (Update_Travel_Approval_Record)
How to Find Records to Update and Set Their Values
Use the travel approval record that triggered the flow
Set Filter Conditions
None—Always Update Record
Set Field Values for the Travel Approval Record
Out_Of_State__c
True
Add Field
Cancel
Done
Edit Update Records
Update Travel Approval Record (Update_Travel_Approval_Recor)
False

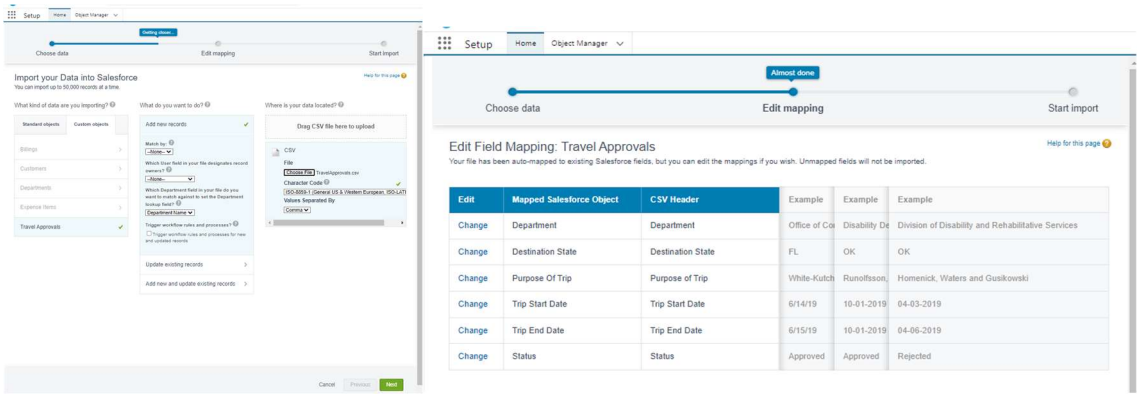

Flow Builder
Out of State Travel Flag - V2
Free-Form
Version 2: Active—Last modified 2 days ago
Run
Debug
View Tests
Deactivate
Save As
Save
Toolbox
Elements
Manager
Logic (5)
Assignment
Decision
Loop
Collection Sort
Collection Filter
Data (2)
Update Records
Get Records
Start
Record-Triggered Flow
Object: Travel Approval
Edit
Trigger: A record is created or updated
Optimize for: Fast Field Updates
Open Flow Trigger Explorer for Travel Ap...
Yes Out of State
In State
Decision
Is Travel Out of State?
Update Records
Update Travel Approval Record
Update Records
Update Travel Approval Record

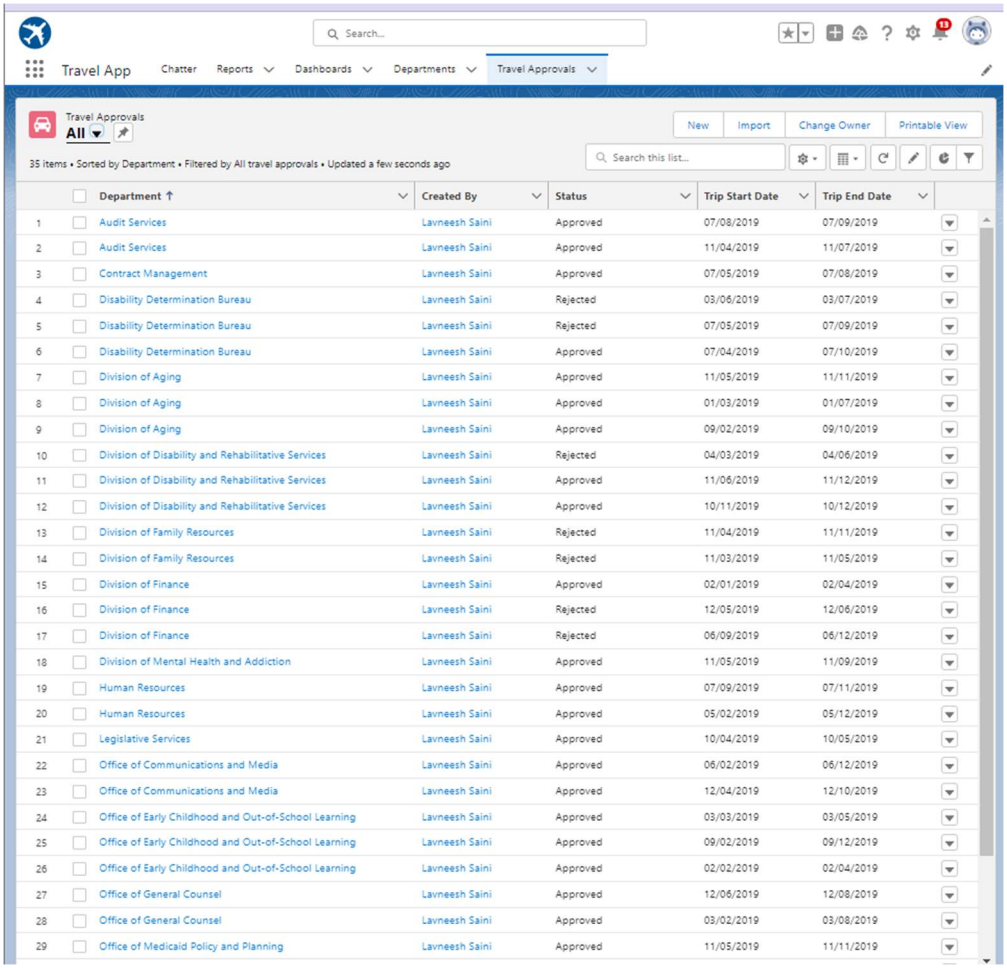
Step 6:


Setup
Home
Object Manager
approv
Data
Mass Transfer Approval Requests
Process Automation
Approval Processes
Didn't find what you're looking for?
Try using Global Search.
SETUP
Approval Processes
Approval Processes
Travel Approval: Travel Approval Request
Help for this Page
« Back to Approval Process List
Process Definition Detail
Edit
Clone
Deactivate
Process Name
Travel Approval Request
Active
Unique Name
Travel_Approval_Request
Next Automated Approver Determined By
Manager of Record Submitter
Description
Entry Criteria
True
Record Editability
Administrator ONLY
Allow Submitters to Recall Approval Requests
Approval Assignment Email Template
Initial Submitters
Travel Approval Owner
Created By
Lavneesh Saini, 24/02/2023, 10:30 am
Modified By
Lavneesh Saini, 24/02/2023, 10:34 am
Initial Submission Actions
Add Existing
Add New
Action
Type
Description
Record Lock
Lock the record from being edited
Approval Steps
Action
Step Number
Name
Description
Criteria
Assigned Approver
Reject Behavior
Show Actions | Edit
1
Step 1
Manager
Final Rejection
Show Actions | Edit
2
Travel_Coordinator_Approval
Travel Approval: Out Of State EQUALS True
User:Eric Executive
Final Rejection
Final Approval Actions
Add Existing
Add New
Action
Type
Description
Edit
Record Lock
Lock the record from being edited
Edit | Remove
Field Update
Set Status to Approved
Final Rejection Actions
Add Existing
Add New
Action
Type
Description
Edit
Record Lock
Unlock the record for editing
Edit | Remove
Field Update
Set Status to Rejected
Recall Actions
Add Existing
Add New
Action
Type
Description
Record Lock
Unlock the record for editing

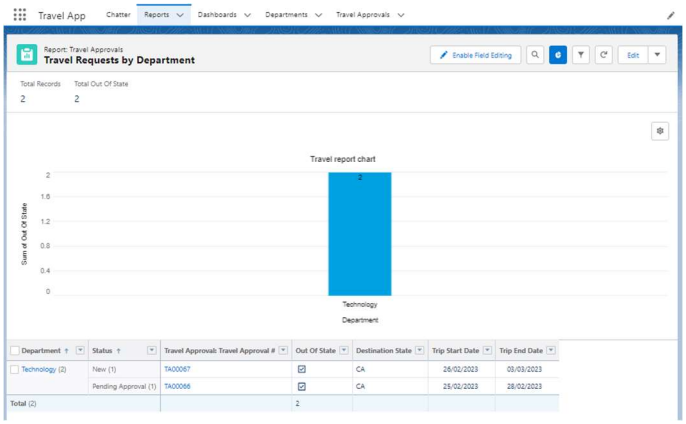
Exercise 2:

Step 1:

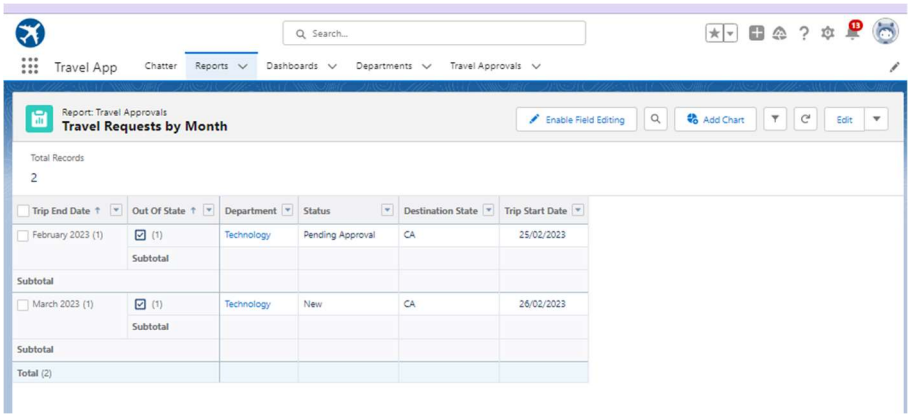




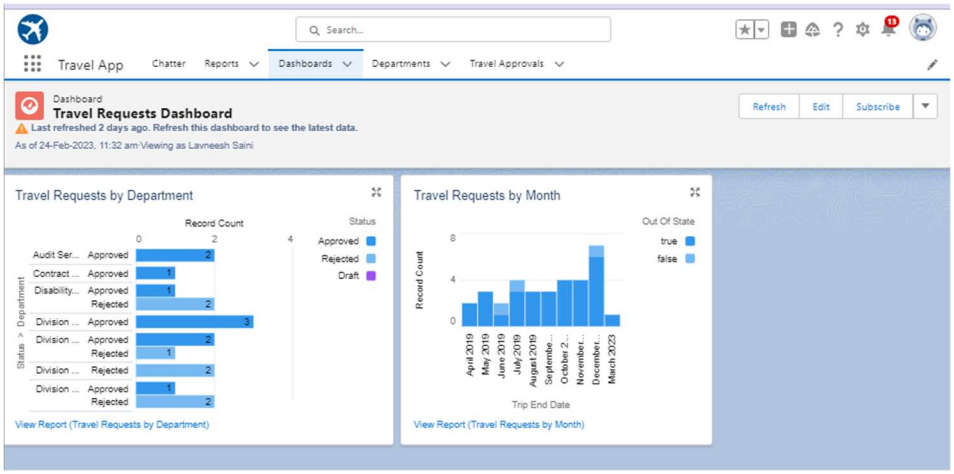
Step 2:



Step 3:

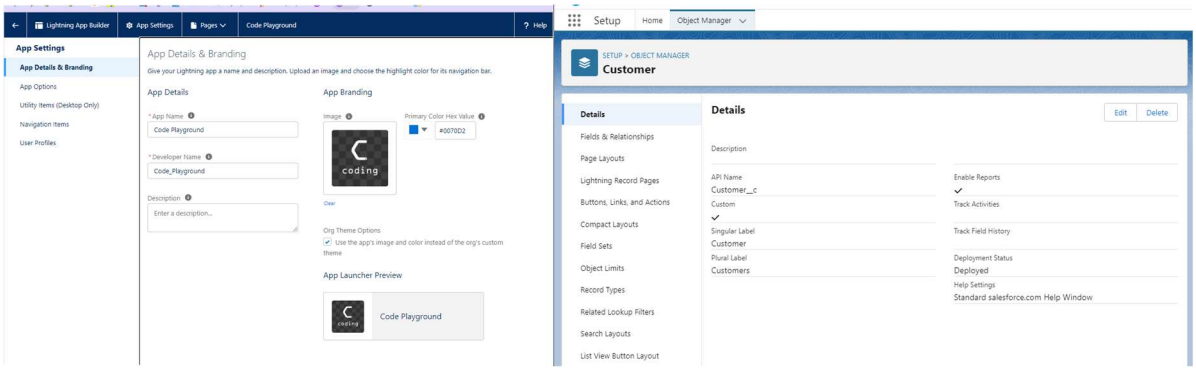


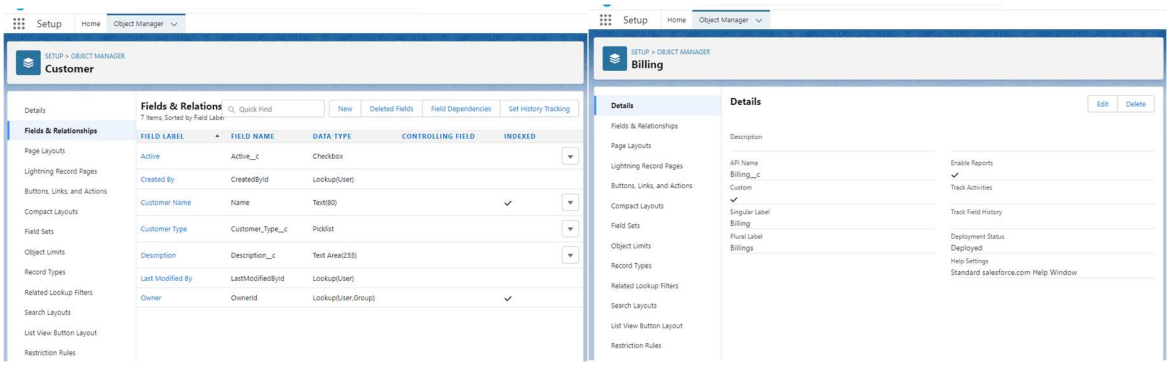
Step 4:

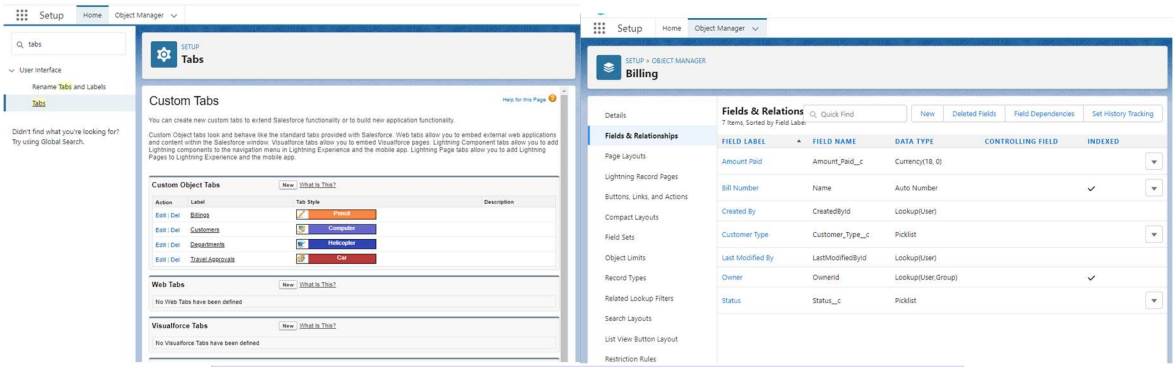


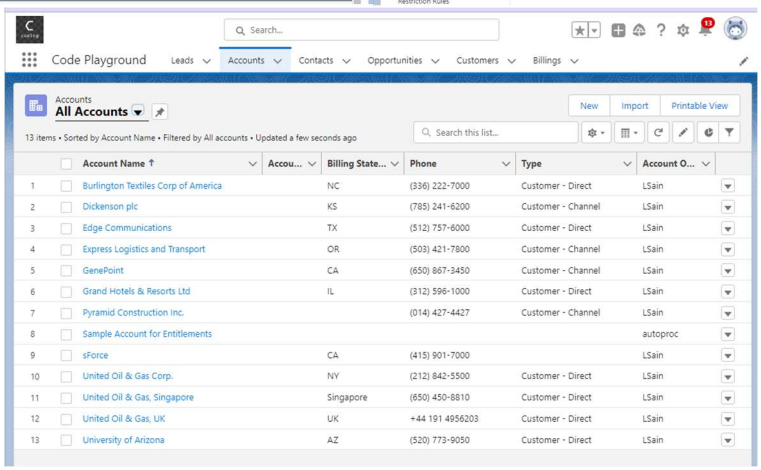
Module 3:

Exercise 1:



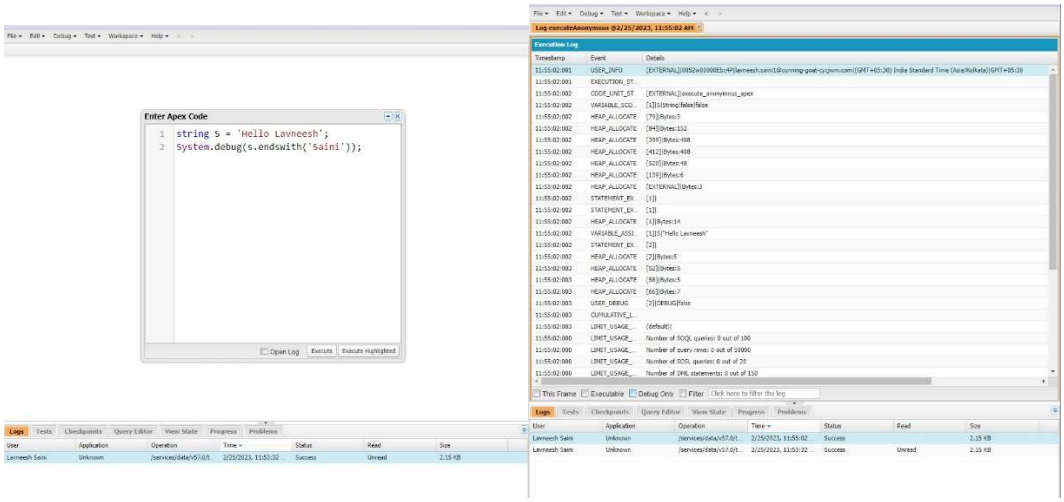


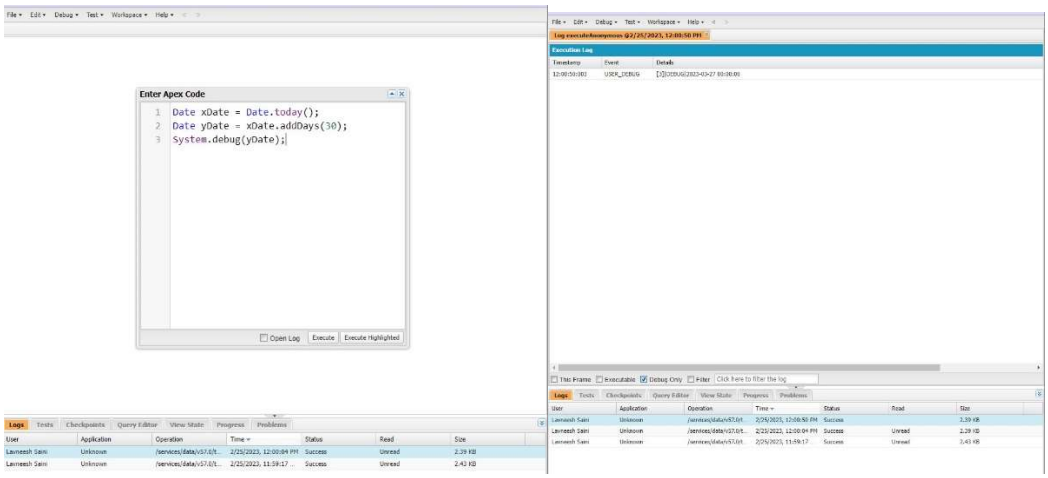


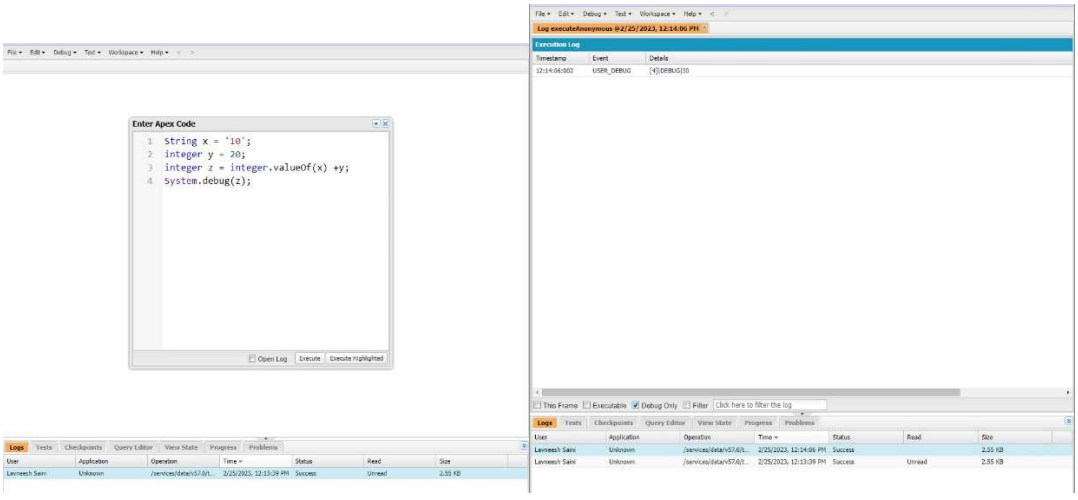


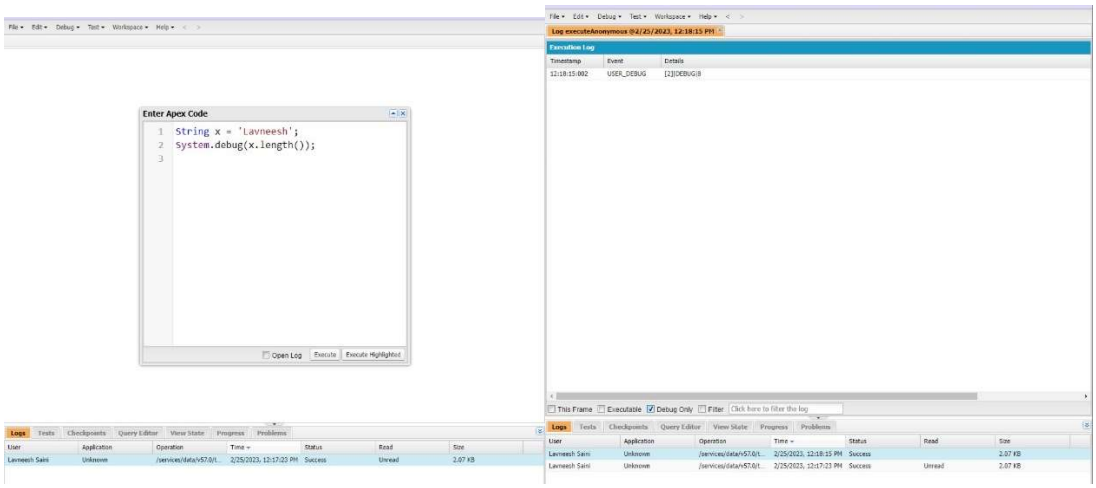
	Account Name	Billing State	Phone	Type	Account O...
1	Burlington Textiles Corp of America	NC	(336) 222-7000	Customer - Direct	LSain
2	Dickenson plc	KS	(785) 241-6200	Customer - Channel	LSain
3	Edge Communications	TX	(512) 757-6000	Customer - Direct	LSain
4	Express Logistics and Transport	OR	(503) 421-7800	Customer - Channel	LSain
5	GenePoint	CA	(650) 867-3450	Customer - Channel	LSain
6	Grand Hotels & Resorts Ltd	IL	(312) 596-1000	Customer - Direct	LSain
7	Pyramid Construction Inc.		(014) 427-4427	Customer - Channel	LSain
8	Sample Account for Entitlements				autoproc
9	sForce	CA	(415) 901-7000		LSain
10	United Oil & Gas Corp.	NY	(212) 842-5500	Customer - Direct	LSain
11	United Oil & Gas, Singapore	Singapore	(650) 450-8810	Customer - Direct	LSain
12	United Oil & Gas, UK	UK	+44 191 4956203	Customer - Direct	LSain
13	University of Arizona	AZ	(520) 773-9050	Customer - Direct	LSain

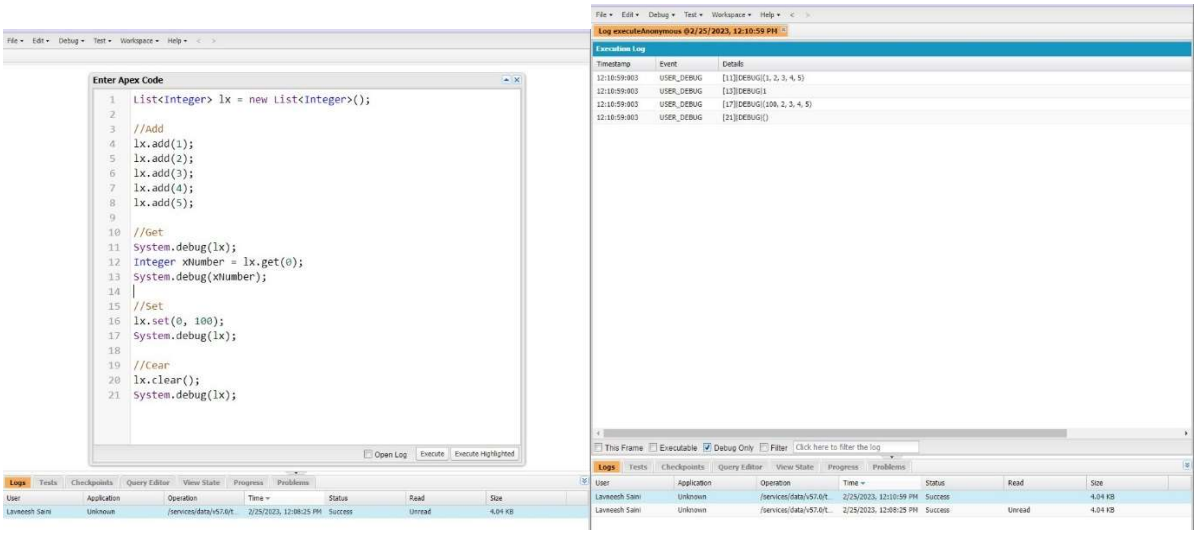
Exercise 2:

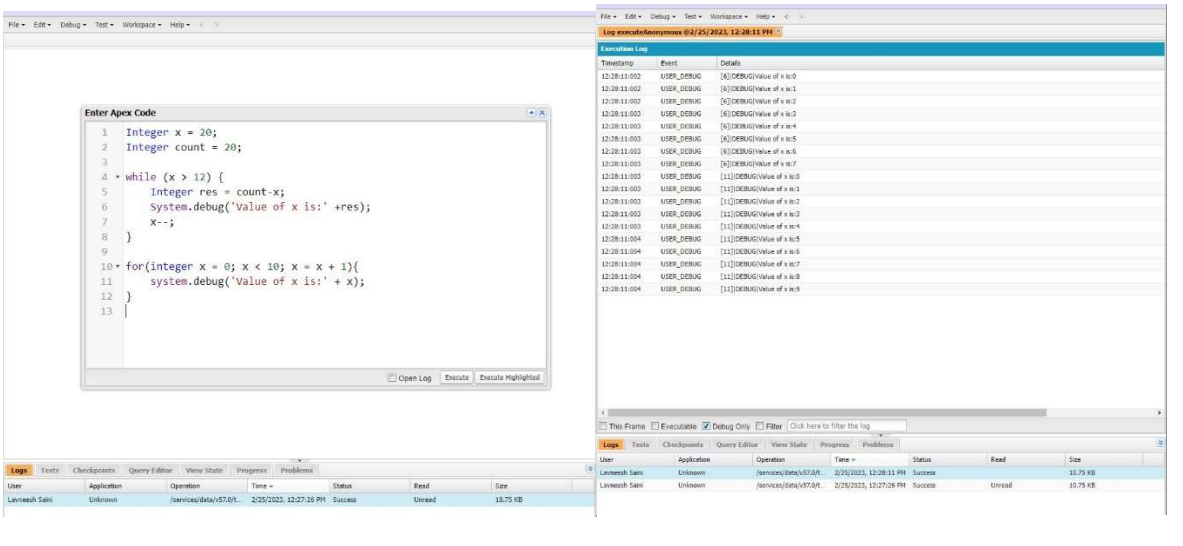

Enter Apex Code
string s = 'Hello Lavneesh';
System.debug(s.endswith('Saini'));


Enter Apex Code
Date xDate = Date.today();
Date yDate = xDate.addDays(30);
System.debug(yDate);

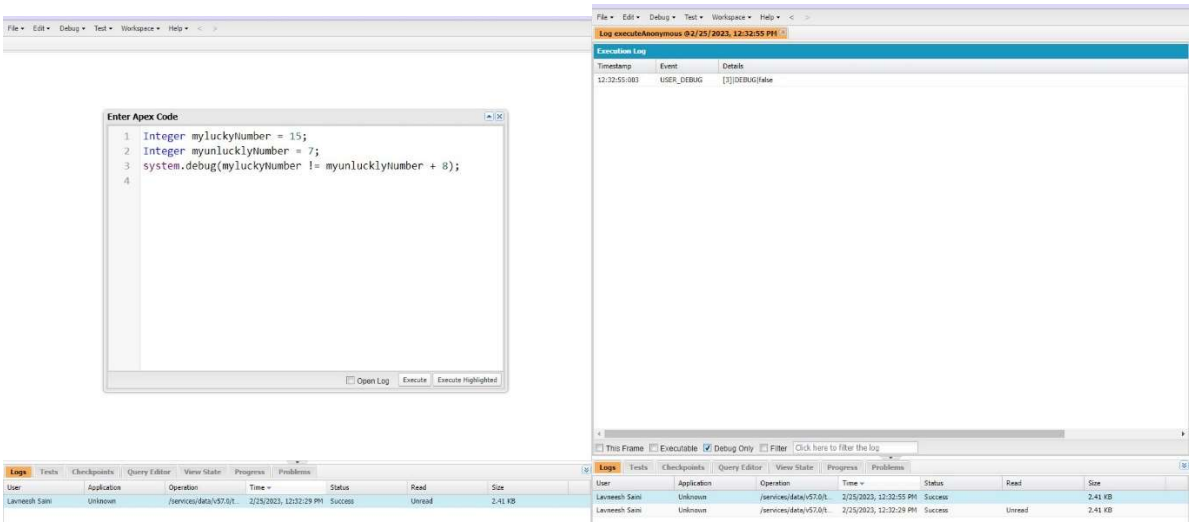

Enter Apex Code
String x = '10';
integer y = 20;
integer z = integer.valueOf(x) +y;
System.debug(z);


Enter Apex Code
String x = 'Lavneesh';
System.debug(x.length());
Open Log
Execute
Execute Highlighted

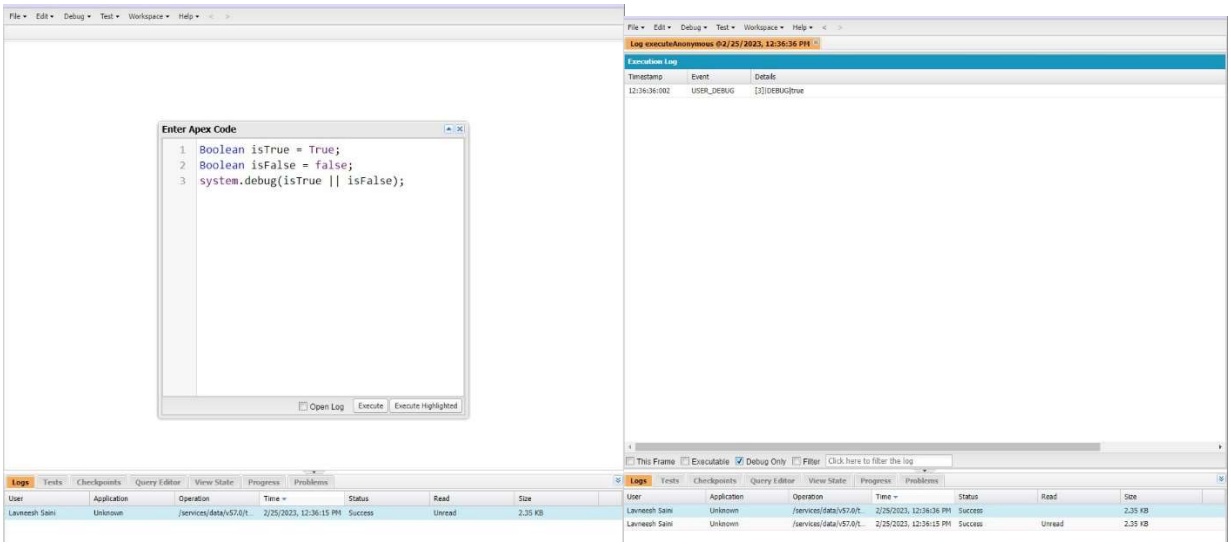

Enter Apex Code
List<Integer> lx = new List<Integer>();
//Add
lx.add(1);
lx.add(2);
lx.add(3);
lx.add(4);
lx.add(5);
//Get
System.debug(lx);
Integer xNumber = lx.get(0);
System.debug(xNumber);
//Set
lx.set(0, 100);
System.debug(lx);
//Cear
lx.clear();
System.debug(lx);
Open Log
Execute
Execute Highlighted


Enter Apex Code
Integer x = 20;
Integer count = 20;
while (x > 12) {
Integer res = count-x;
System.debug('Value of x is:' +res);
x--;
}
for(integer x = 0; x < 10; x = x + 1){
system.debug('Value of x is:' + x);
}
Open Log
Execute
Execute Highlighted

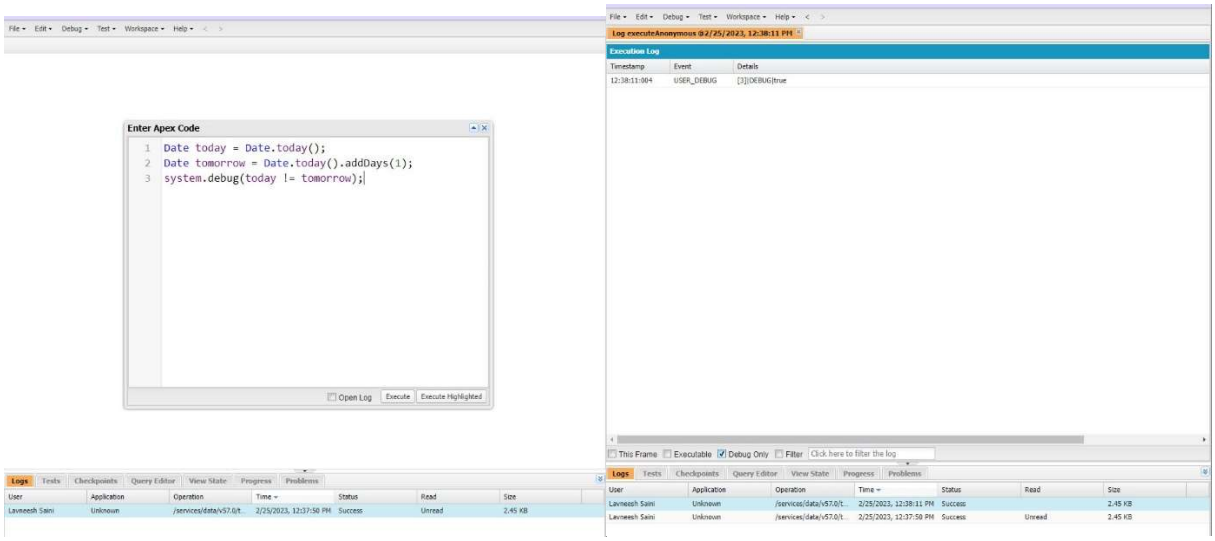
Exercise 3:



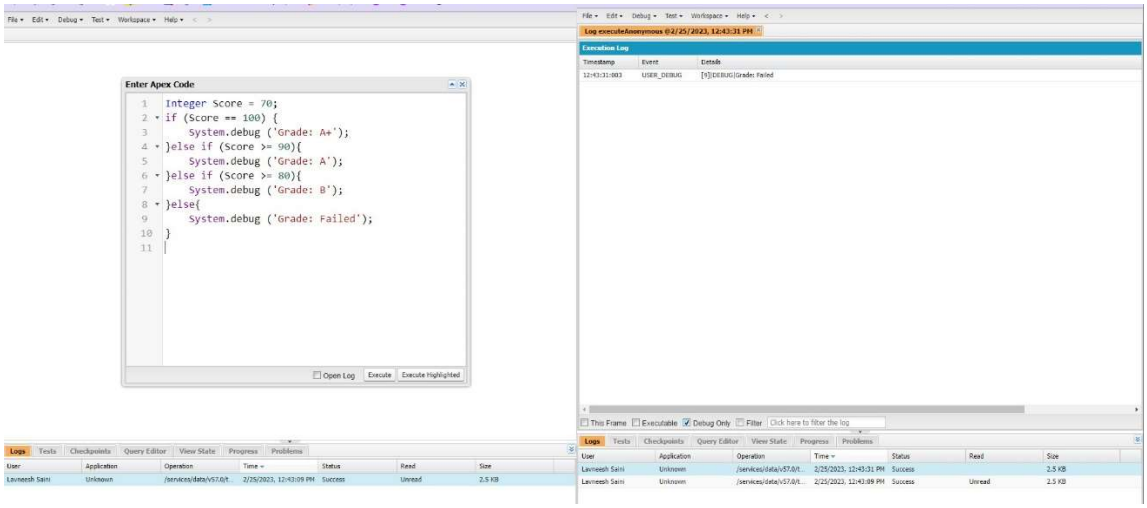
Exercise 4:



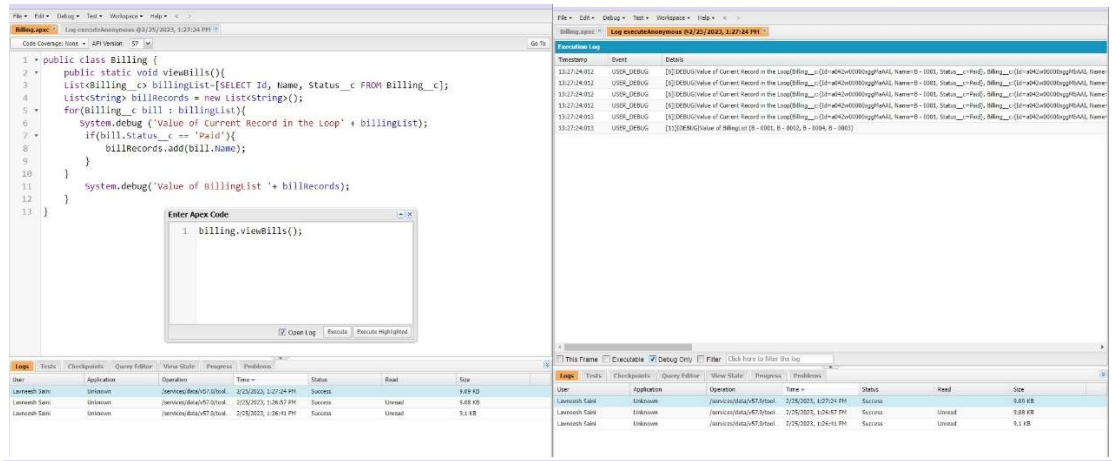
Exercise 5:

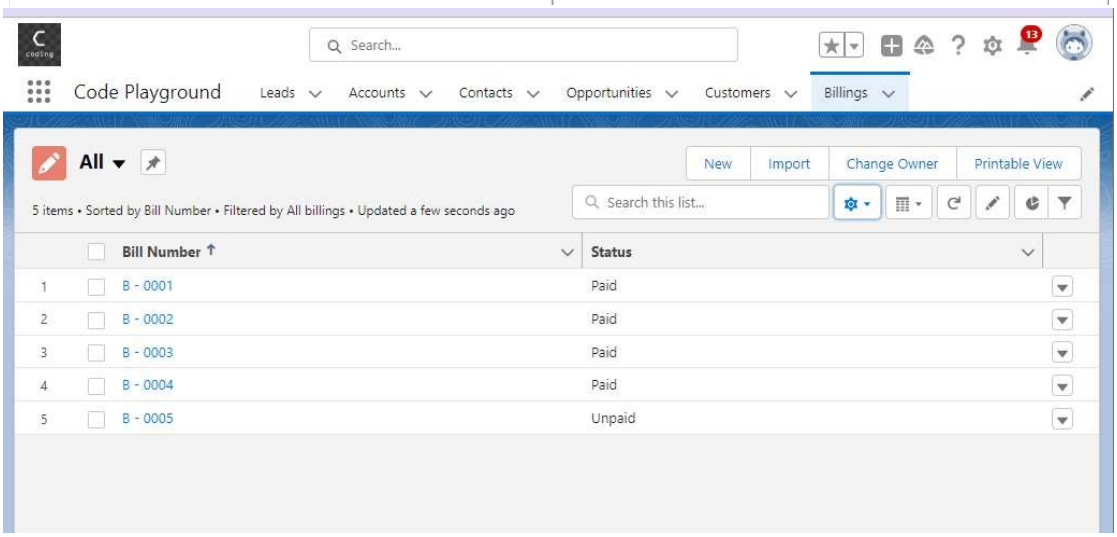


Exercise 6:

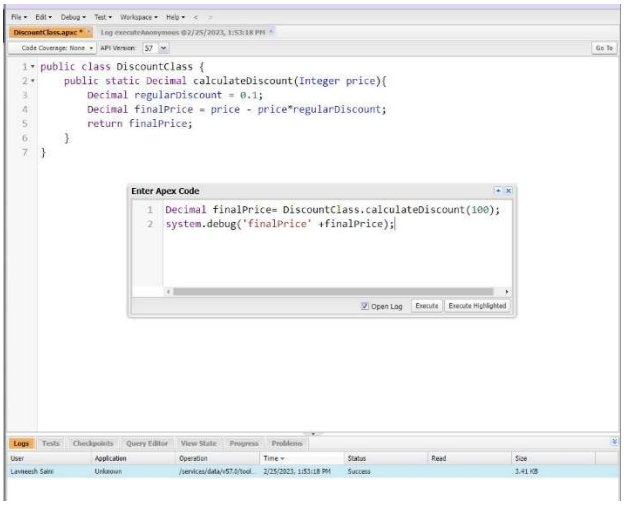


Exercise 7:





Exercise 8:



Exercise 9:

File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < >

PremiumCustomer.apxc | InterfaceExample.apxc | normalCustomer.apxc

Code Coverage: None ▾ API Version: 57 ▾ Go To

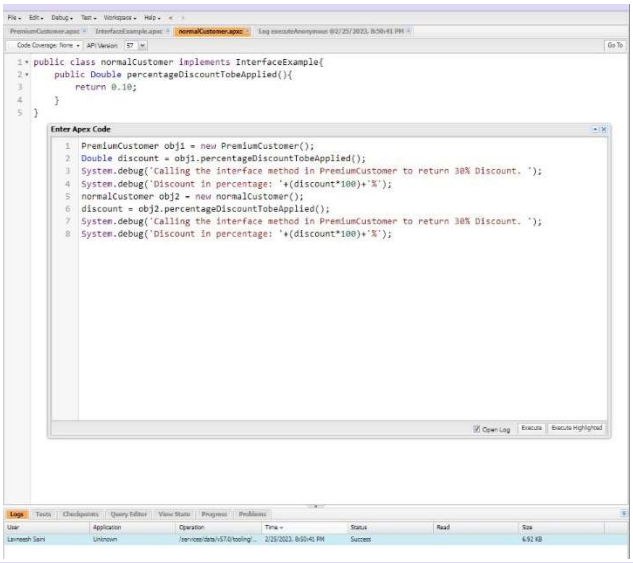
```
1 ▾ public interface InterfaceExample {
2       Double percentageDiscountTobeApplied();
3   }
```

File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < >

PremiumCustomer.apxc | InterfaceExample.apxc | normalCustomer.apxc

Code Coverage: None ▾ API Version: 57 ▾ Go To

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



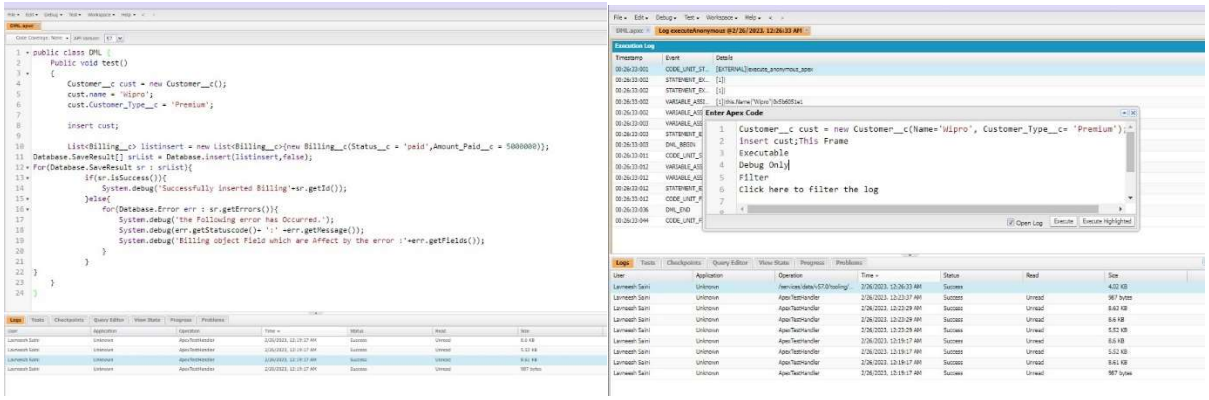
File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < >

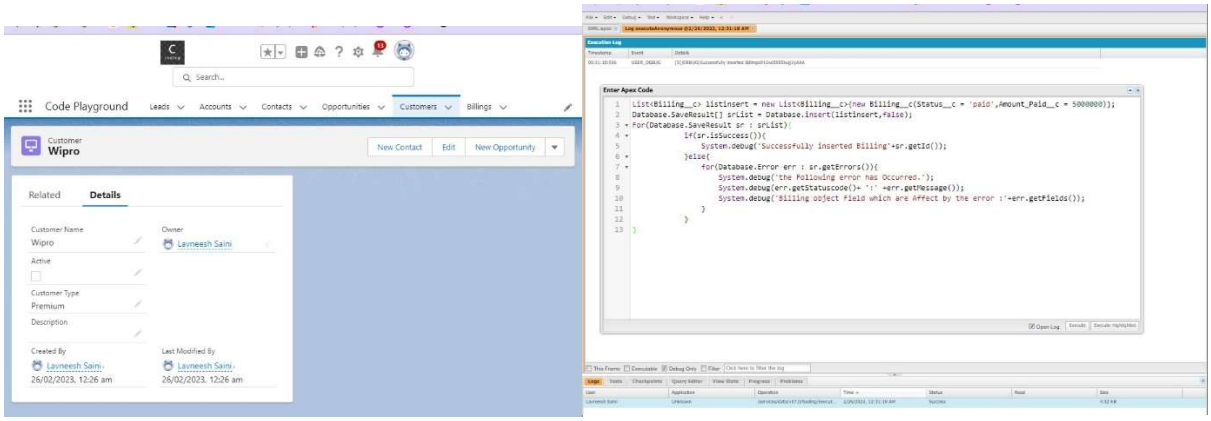
PremiumCustomer.apxc | InterfaceExample.apxc | normalCustomer.apxc | Log executeAnonymous @2/25/2023, 8:50:41 PM

Execution Log

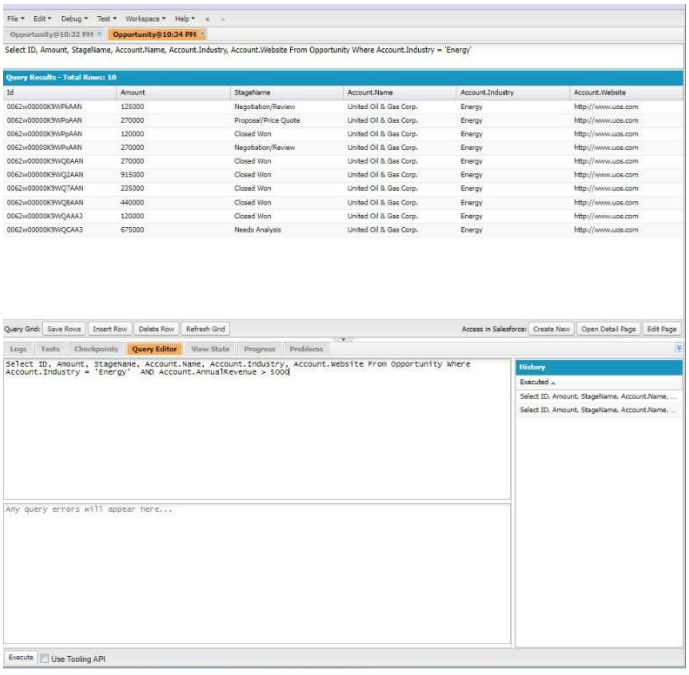
Timestamp	Event	Details
20:50:41:029	USER_DEBUG	[3]|DEBUG|Calling the interface method in PremiumCustomer to return 30% Discount.
20:50:41:029	USER_DEBUG	[4]|DEBUG|Discount in percentage: 30.0%
20:50:41:030	USER_DEBUG	[7]|DEBUG|Calling the interface method in PremiumCustomer to return 30% Discount.
20:50:41:030	USER_DEBUG	[8]|DEBUG|Discount in percentage: 10.0%

Exercise 10:

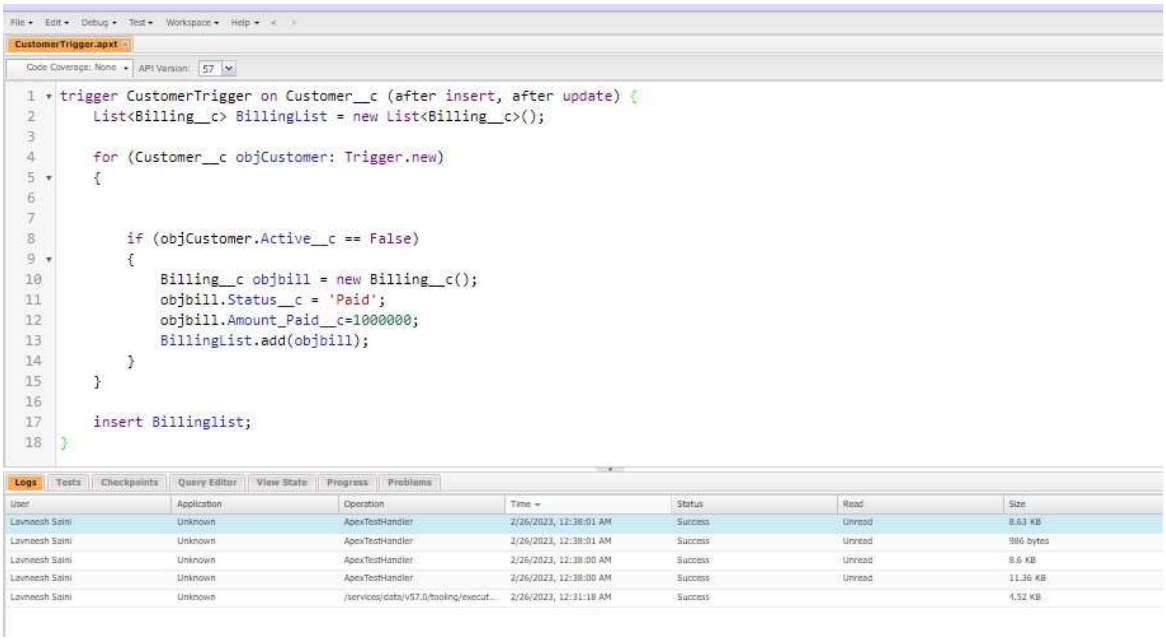




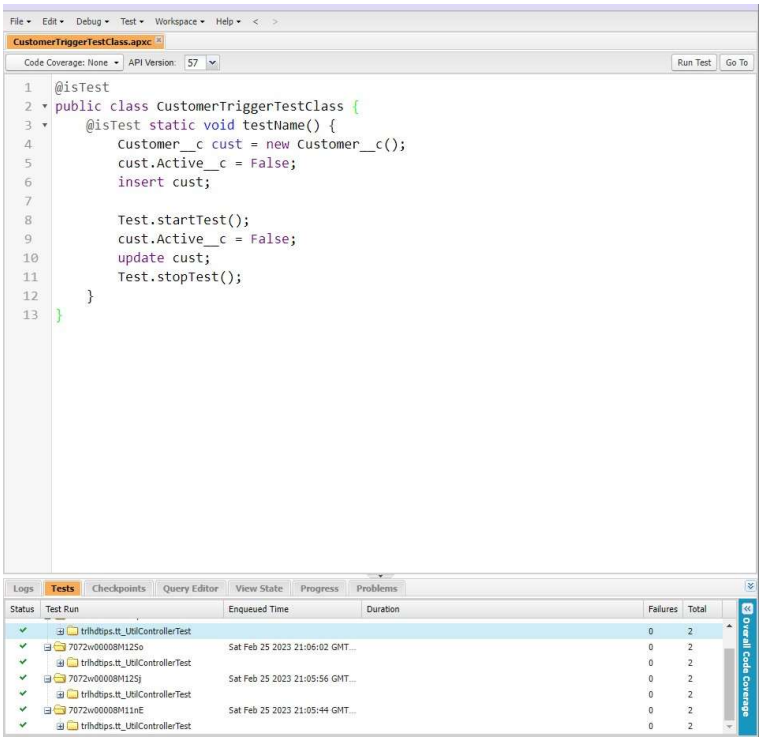
Exercise 11:



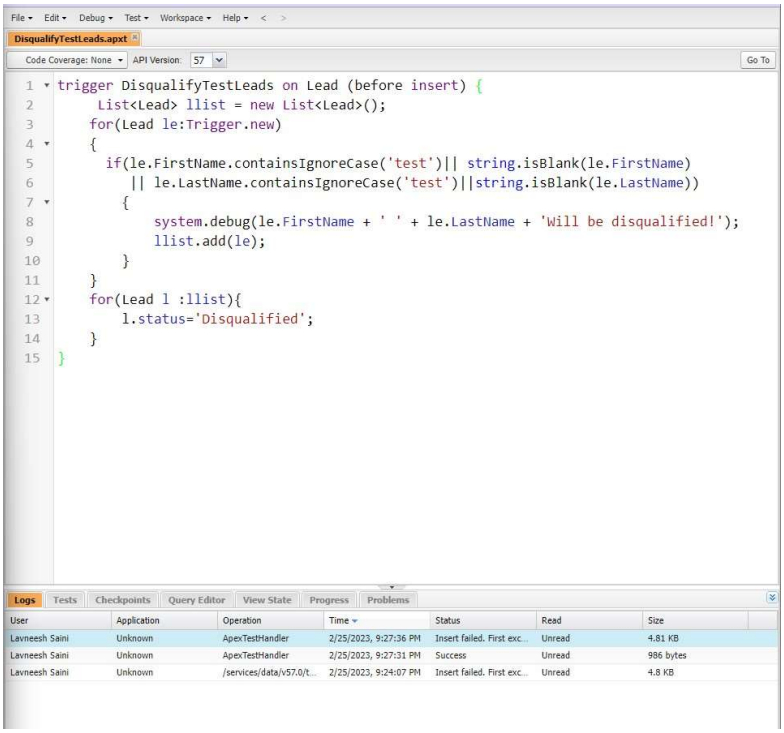
Exercise 12:



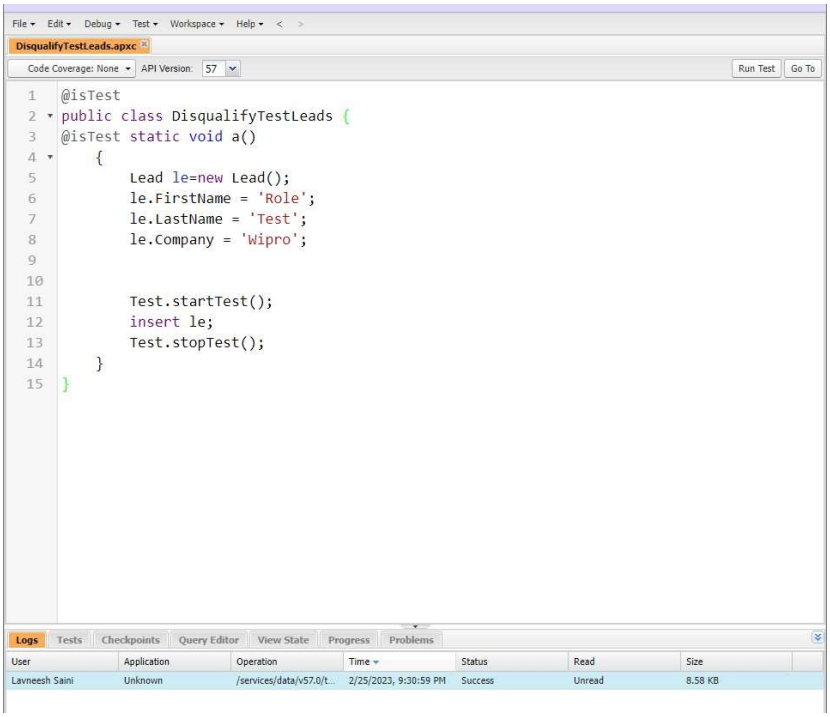
Exercise 13:



Exercise 14:



Exercise 15:



Exercise 16:

File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < >

OppView.vfp

Preview API Version: 57

```
1  <apex:page standardController = "Opportunity">
2
3      <apex:pageBlock title = "Opportunities">
4          <apex:pageBlockSection >
5              <apex:outputField value="{! Opportunity.Name}"/>
6              <apex:outputField value="{! Opportunity.Amount}"/>
7              <apex:outputField value="{! Opportunity.CloseDate}"/>
8              <apex:outputField value="{! Opportunity.Account.Name}"/>
9
10         </apex:pageBlockSection>
11     </apex:pageBlock>
12 </apex:page>
```

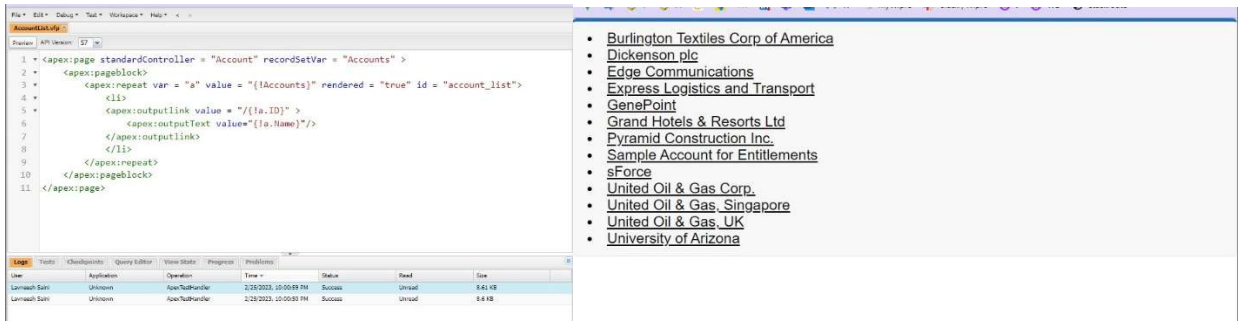
Logs | Tests | Checkpoints | Query Editor | View State | Progress | Problems

User	Application	Operation	Time	Status	Read	Size
Lavneesh Saini	Browser	/apex/OppView	2/25/2023, 9:52:43 PM	Success	Unread	1.18 KB
Lavneesh Saini	Unknown	ApexTestHandler	2/25/2023, 9:52:28 PM	Success	Unread	987 bytes
Lavneesh Saini	Unknown	ApexTestHandler	2/25/2023, 9:52:28 PM	Insert failed. First exc...	Unread	4.82 KB
Lavneesh Saini	Unknown	ApexTestHandler	2/25/2023, 9:52:28 PM	Success	Unread	8.61 KB
Lavneesh Saini	Unknown	ApexTestHandler	2/25/2023, 9:52:28 PM	Success	Unread	8.61 KB

Opportunities

Opportunity Name	Amount
Close Date	Account Name

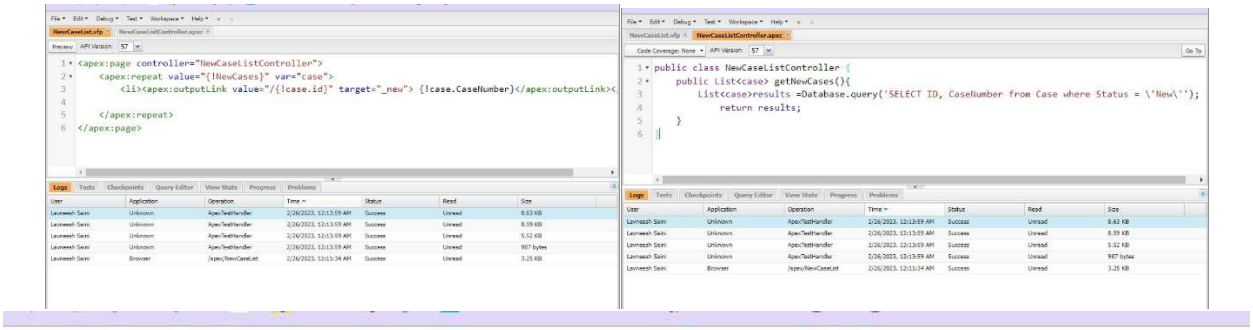
Exercise 17:



```
<apex:page standardController = "Account" recordSetVar = "Accounts" >
    <apex:pageblock>
        <apex:repeat var = "a" value = "{!Accounts}" rendered = "true" id = "account_list">
            <li>
            <apex:outputlink value = "/{!a.ID}" >
                <apex:outputText value="{!a.Name}"/>
            </apex:outputlink>
            </li>
        </apex:repeat>
    </apex:pageblock>
</apex:page>
```

- Burlington Textiles Corp of America
- Dickenson plc
- Edge Communications
- Express Logistics and Transport
- GenePoint
- Grand Hotels & Resorts Ltd
- Pyramid Construction Inc.
- Sample Account for Entitlements
- sForce
- United Oil & Gas Corp.
- United Oil & Gas, Singapore
- United Oil & Gas, UK
- University of Arizona

Exercise 18:



```
<apex:page controller="NewCaseListController">
    <apex:repeat value="{!NewCases}" var="case">
        <li><apex:outputLink value="/{!case.id}" target="_new"> {!case.CaseNumber}</apex:outputLink></
    </apex:repeat>
</apex:page>
```

```
public class NewCaseListController {
    public List<case> getNewCases(){
        List<case>results =Database.query('SELECT ID, CaseNumber from Case where Status = \'New\'');
            return results;
    }
}
```

- 00001002
- 00001016
- 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