Project Report

Build an Employee Travel Approval Application for Corporates

Introduction:

Overview:

Our organization has decided to implement a custom travel approval app. Travel approval means approval of official travel in advance by an appropriately delegated officer , utilizing the appropriate form or system. Up until now , we had a travel approval process in place based on emailing spreadsheets. It had no central repository or enforcement of the process, resulting in the inability to report on travel approval activities across the organization.

We need to create an application that meets these requirements:

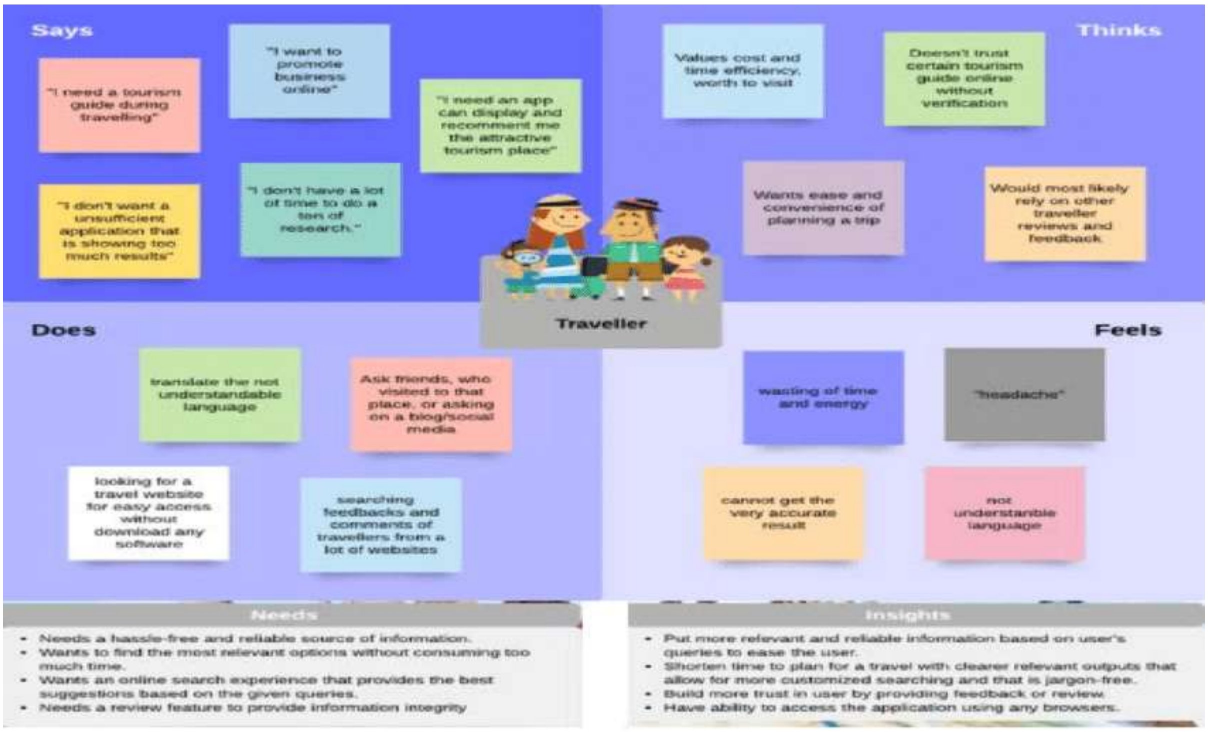
- ❖ Each employee must submit an electronic request in the system for future travel.
- ❖ Each request includes a list of estimated expenses for airfare, hotel, rental cars, and so on.
- ❖ Each request must be approved by the employee's manager, and all out-of-state travel must be approved by a travel coordinator.
- ❖ Managers need reports and dashboards to track key travel request trends and KPIs(Key Performance Indicators in Sales).
- ❖ In addition , employees and managers must be able to access their travel requests, approvals, and dashboards via mobile device.

Purpose:

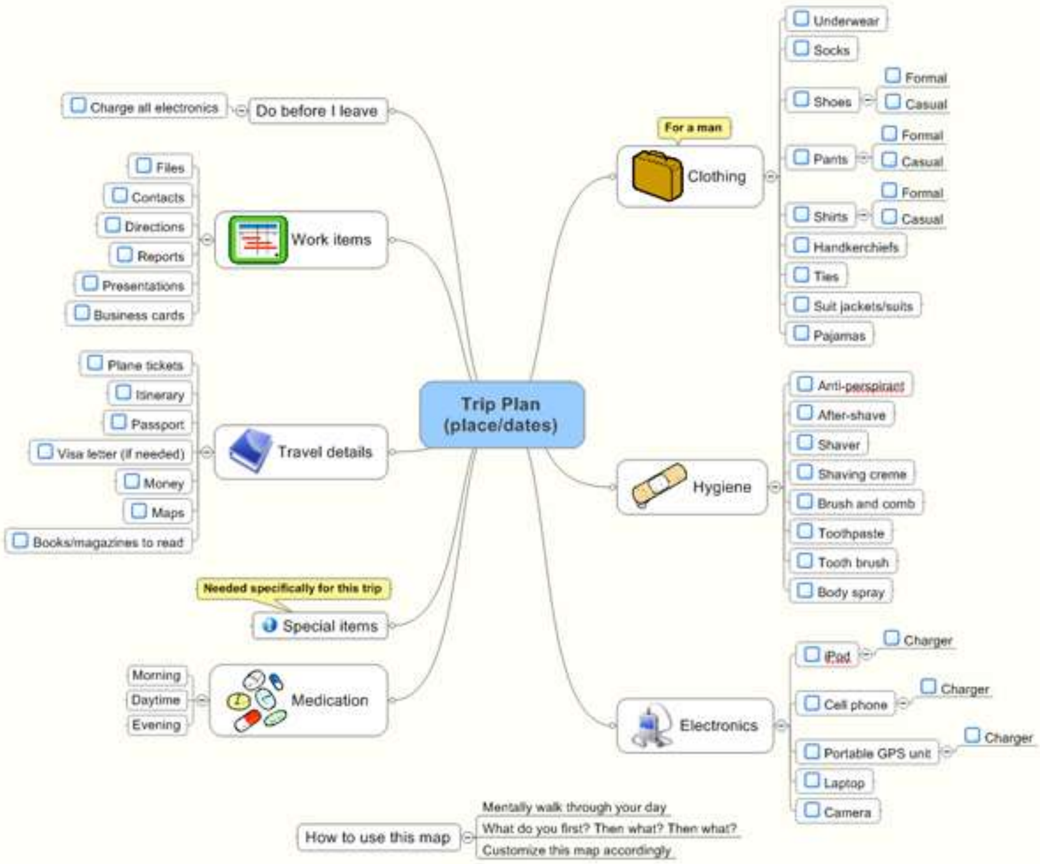
The purpose of employee travel approval application for corporates is a travel request form helps gather employee trip details and allows you to reject or approve their travel and reimburse their expenses. And also travel request forms are designed to give management an overview of the intended business trip from both a cost and a strategic point of view.

Problem Definition & Design Thinking:

Empathy Map:



Ideation and Brainstorming Map:



Result:

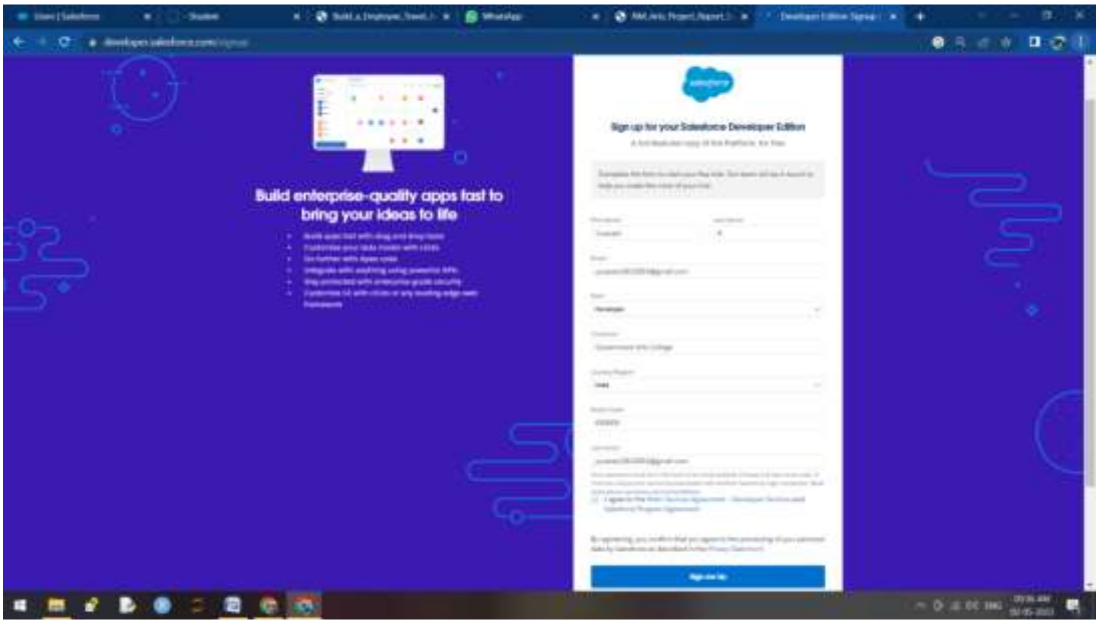
Data Model:

S.No.	Object Name	Fields in the Object	
		Field Label	**Data Type**
1	Department	Department Code	Text(10)(Unique Case Sensitive)
2	Travel Approval	Department	Lookup(Department)
		Destination State	Text(2)
		Out of State	Checkpox
		Purpose of Trip	Text Area
		Status	Picklist
		Status Indicator	Formula(Text)
		Total Expenses	Roll-Up Summary(Sum Expense Item)
		Trip Start Date	Date
		Trip End Date	Date
3	Expense Item	Amount	Currency(16,2)
		Expense Type	Picklist
		Travel Approval	Master-Detail(Travel Approval)

Activities:

Activity-1:

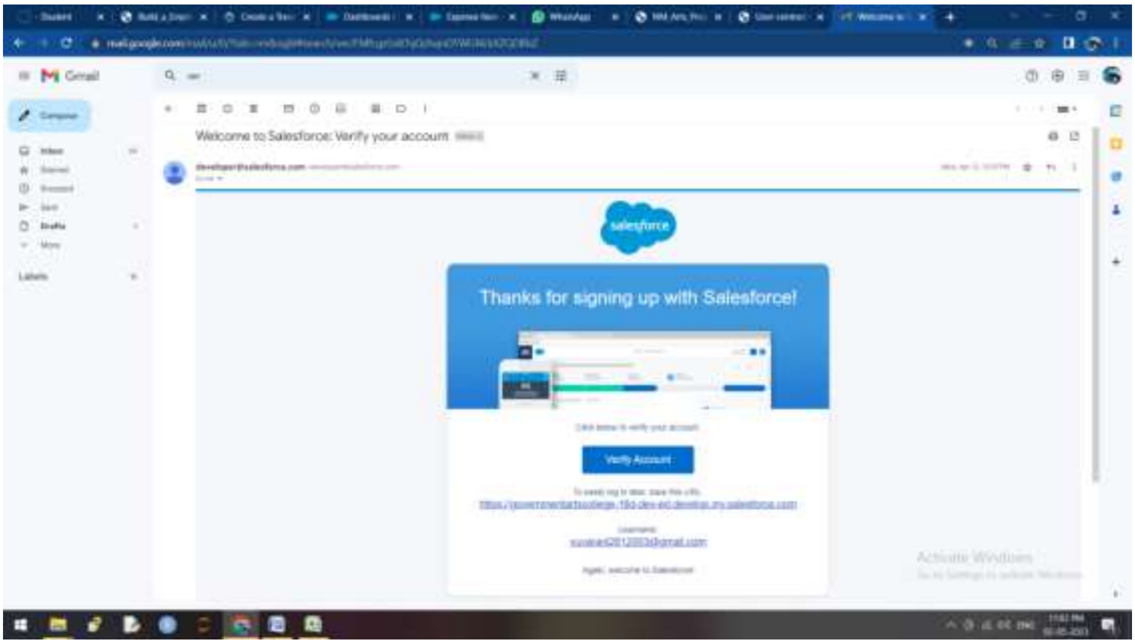
Creating Developer Account – Creating a developer org in Salesforce.



Activity-2:

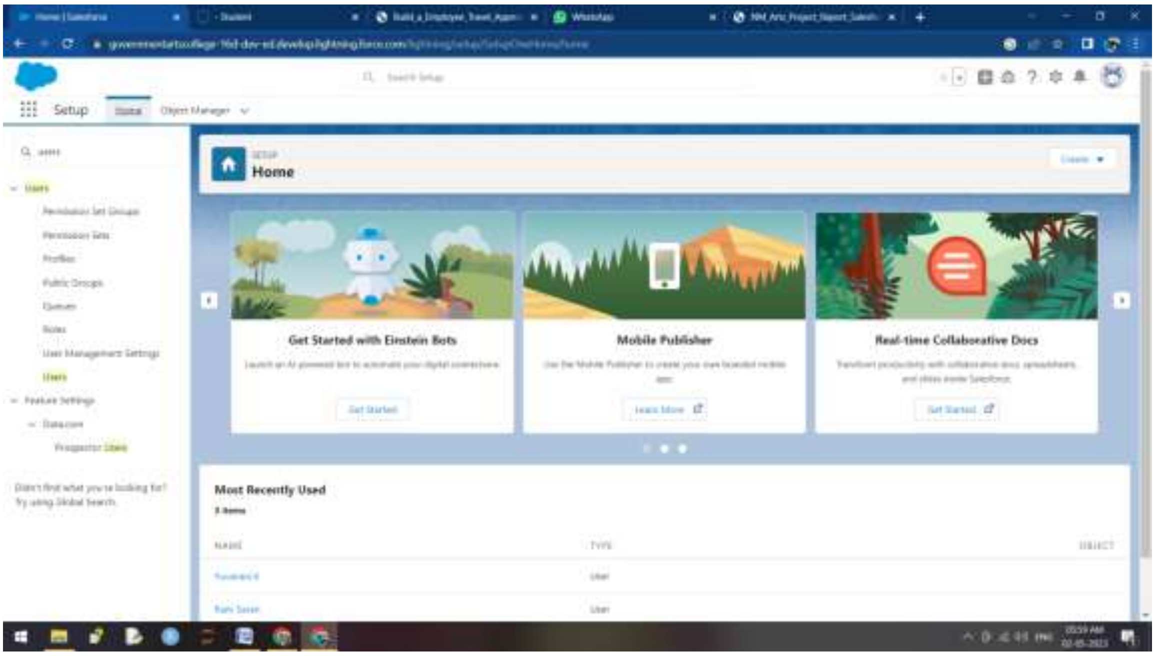
Account Activation:

Go to the inbox of the email that you used while signing up. Click on the verify account to activate your account.



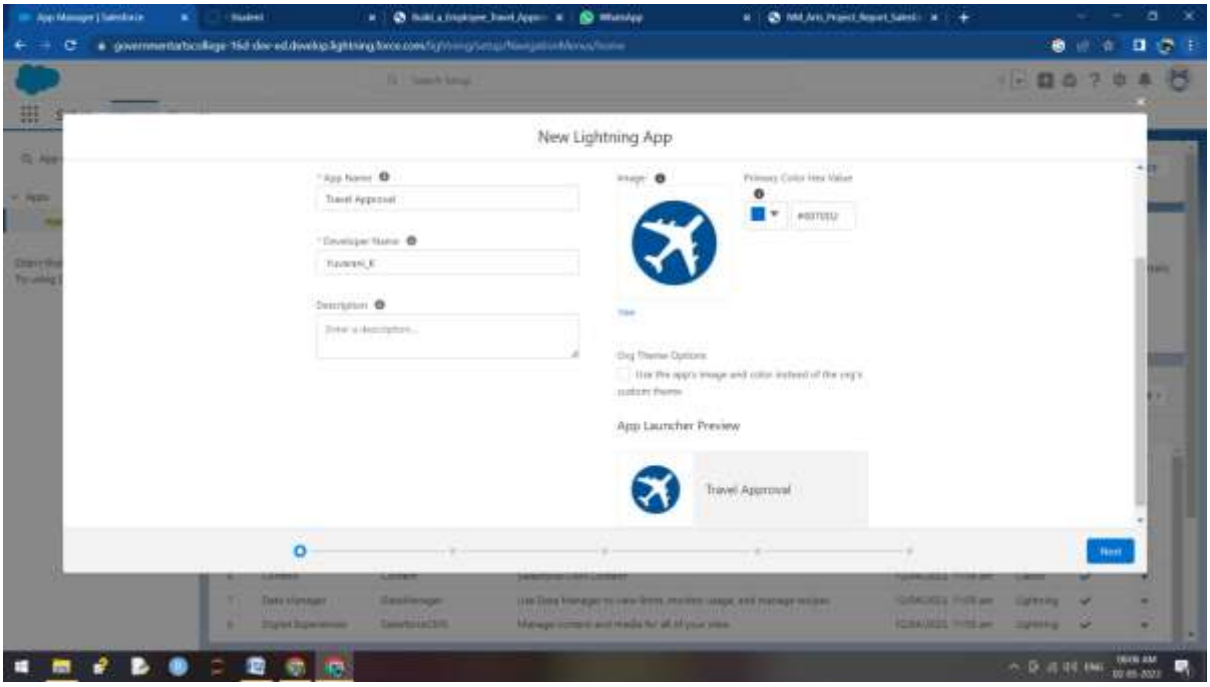
Login to our Salesforce Account:

1. Go to salesforce.com and click on login.
2. Enter the username and password that you just created.
3. After login this is the home page which you will see.



Activity-3:

Create the Travel Approval Application:



Activity-4:

Salesforce objects are database tables that permit you to store data that is specific to an organization. It consists of fields (columns) and records (rows).

Salesforce objects are of two types:

• Standard Objects: Standard objects are the kind of objects that are provided by salesforce.com such as users, contracts, reports, dashboards, etc

. • Custom Objects: Custom objects are those objects that are created by users. They supply information that is unique and essential to their organization. They are the heart of any application and provide a structure for sharing data.

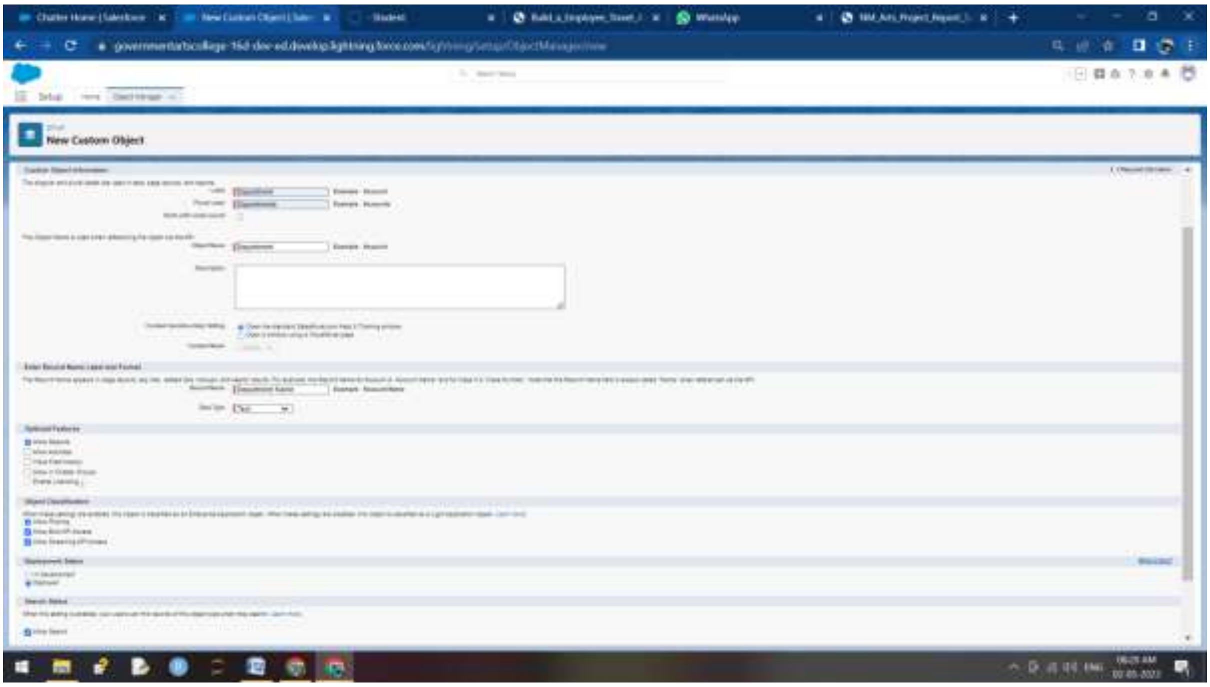
Custom Object Creation:

In this Travel Approval application we will be creating 3 objects:

- ❖ Department
- ❖ Travel approval
- ❖ Expense Item

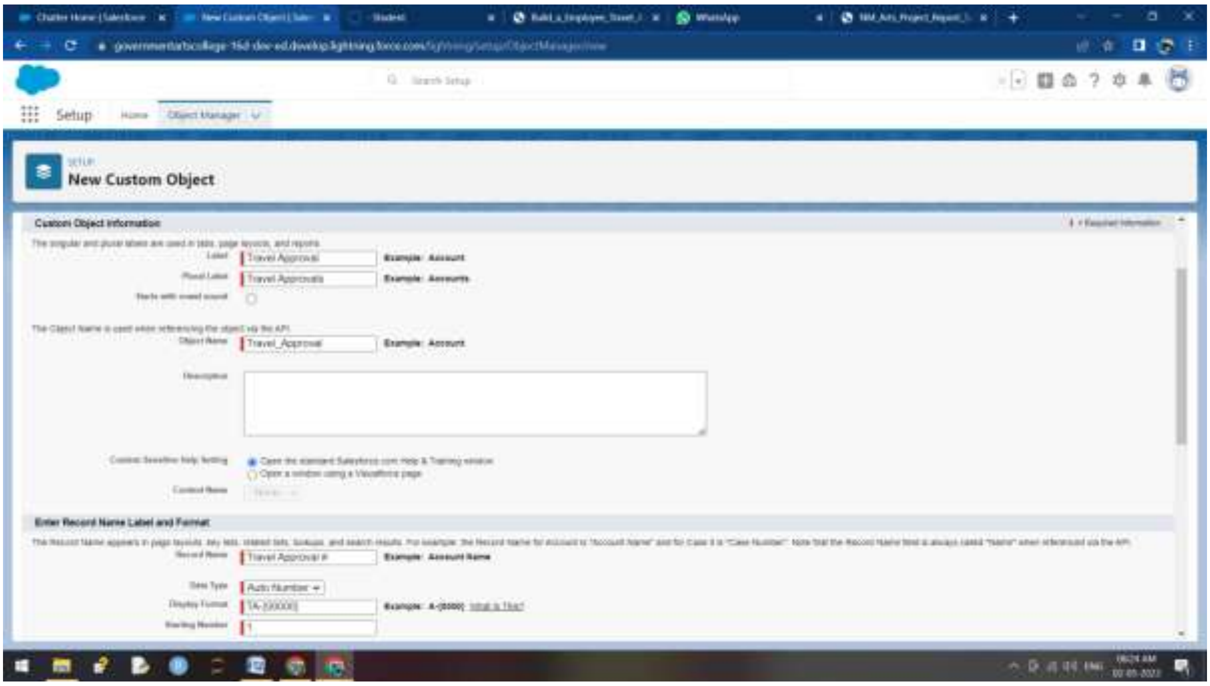
Create Department Object:

Label : Department
Plural Label : Departments
Data Type : Text



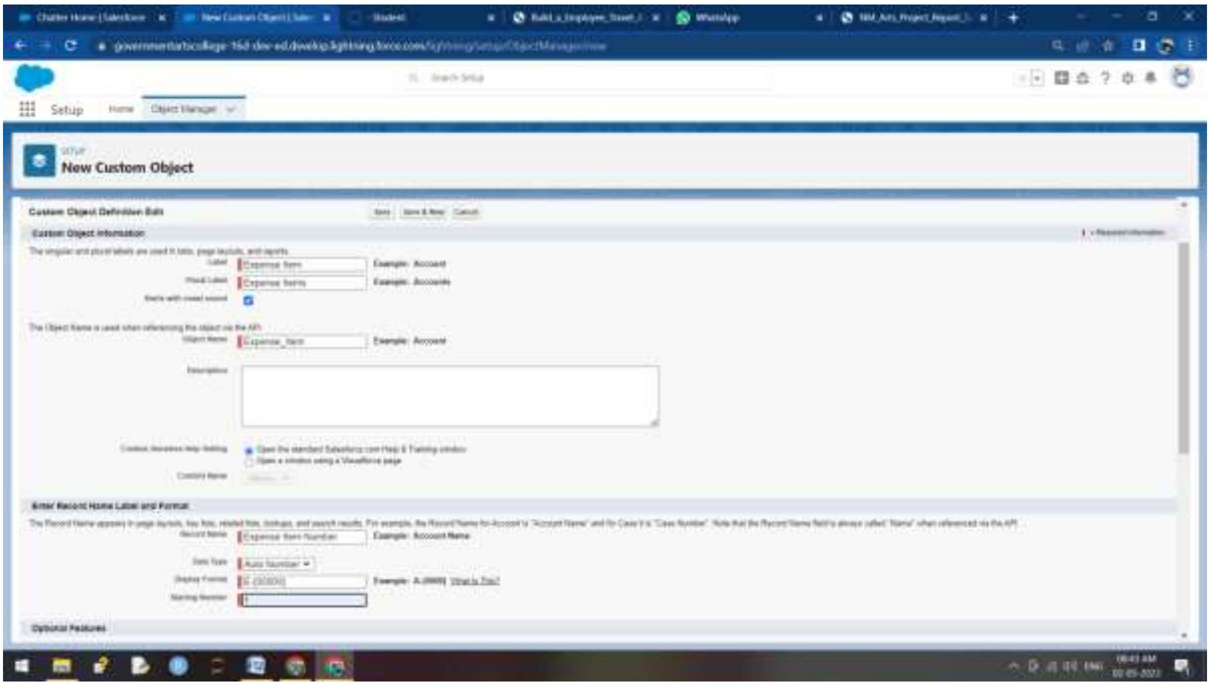
Create Travel Approval Object:

Label : Travel Approval
Plural Label : Travel Approvals
Record Name : Travel Approval #
Data Type : Auto Number
Display Format : TA-[00000}
Starting Number: 1



Create Expense Item:

Label : Expense Item
Plural Label : Expense Items
Record Name : Expense Item Number
Data Type : Auto Number
Display Format : E-{00000}
Starting Number : 1



Create Tabs for Custom Objects:

Tabs:

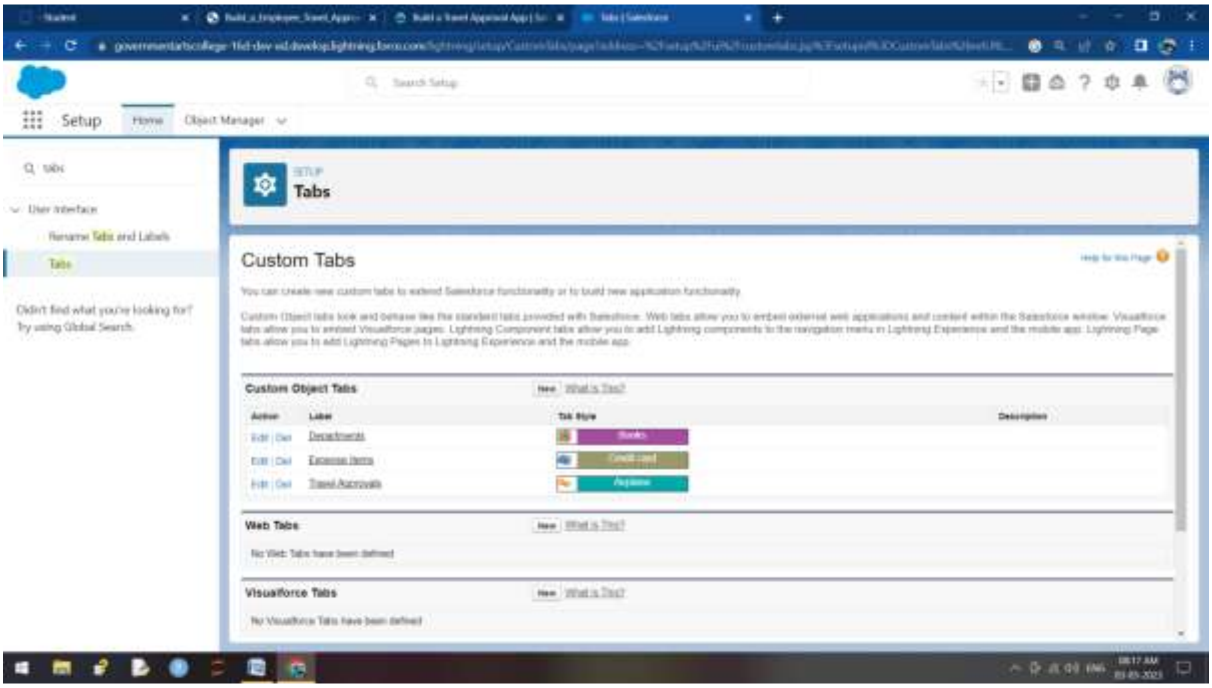
Tabs in Salesforce help users view the information at a glance. It displays the data of objects and other web content in the application.

There are mainly 4 types of tabs:

- Standard Object Tabs:
  - ❖ Standard object tabs displays data related to standard objects.
- Custom Object Tabs:
  - ❖ Custom object tabs displays data related to custom objects. These tabs look and function just like standard tabs.
- Web Tabs:
  - ❖ Web Tabs display any external Web-based application or Web page in a Salesforce tab.
- Visualforce Tabs:
  - ❖ Visualforce Tabs display data from a Visualforce Page.

Custom Object Tabs:

Label	Tab Style
Departments	Books
Expense Items	Credit Card
Travel Approvals	Airplane



Create Fields and Relationships :

Fields:

Fields in Salesforce represents what the columns represent in relational databases. It can store data values which are required for a particular object in a record.

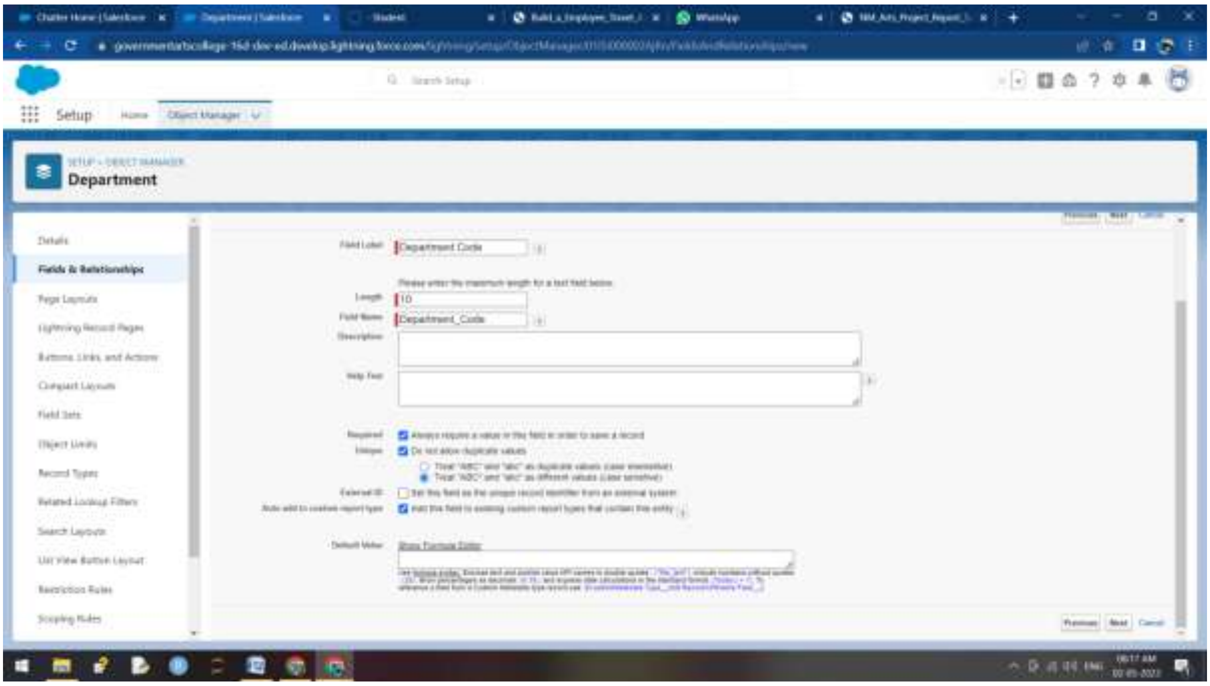
There are 2 types of fields in salesforce:

- **Standard fields**: There are four standard fields in every custom object that are Created By, Last Modified By, Owner, and the field created at the time of the creation of an object. These fields cannot be deleted or edited and they are always required. For standard objects, the fields which are present by default in them and cannot be deleted from standard objects are standard fields.

- **Custom fields**: The Custom fields which are added by the administrator/developer to meet the business requirements of any organization. They may or may not be required.

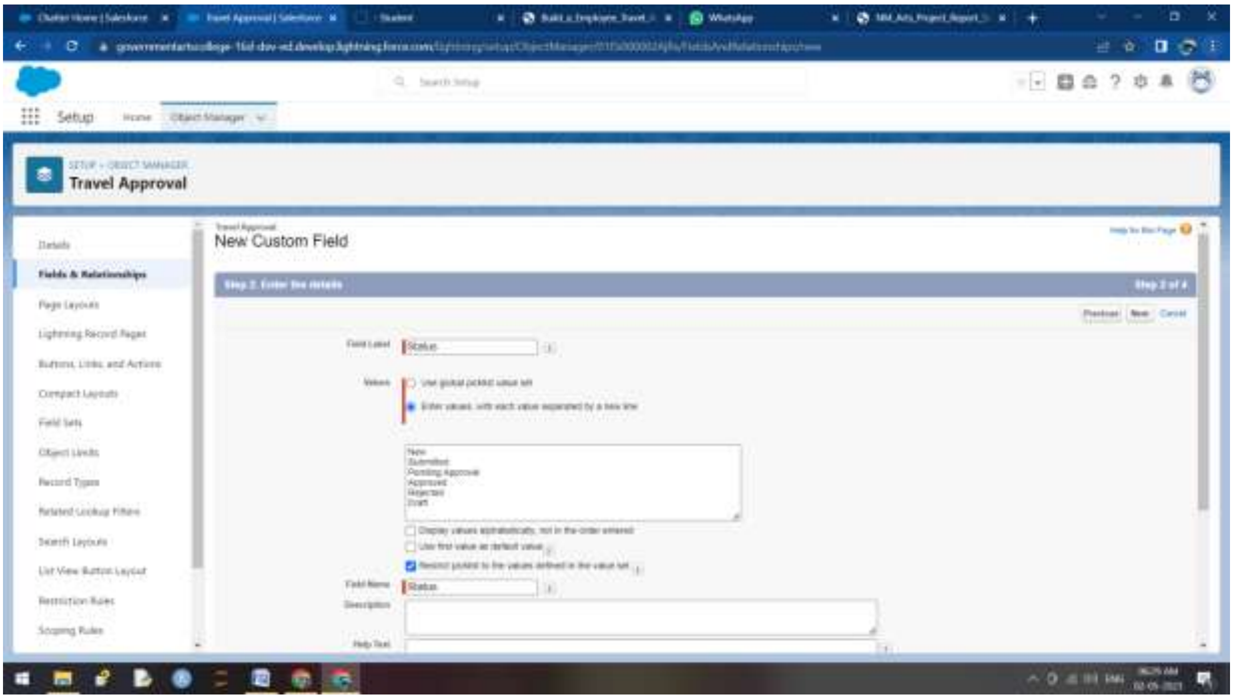
Creating Fields in Custom Objects:

In the **Department** Object , Create a **Department Code** Field with data type **Text.**

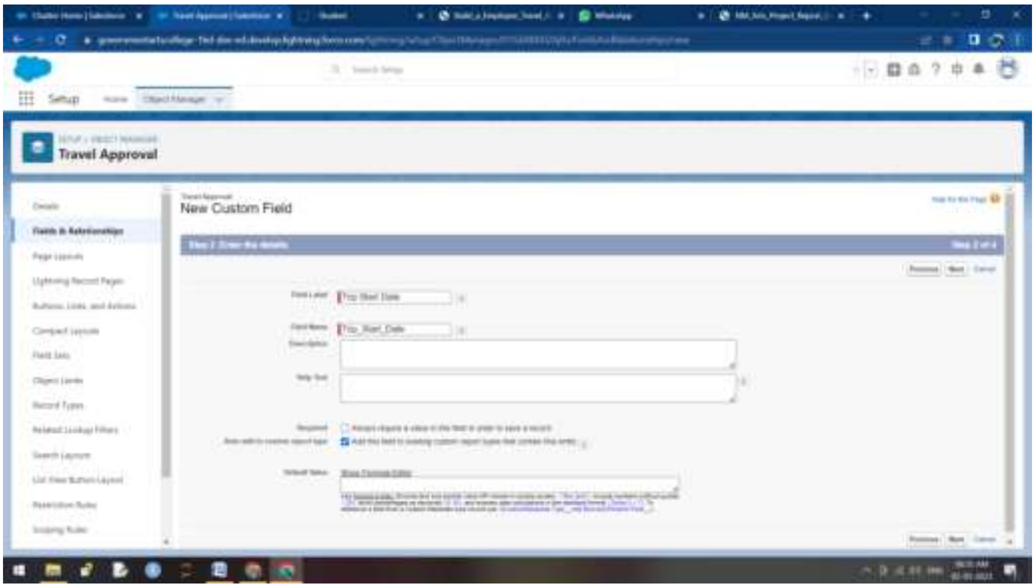


In the Travel Approval Object , we create the fields as followed in the screenshots below.

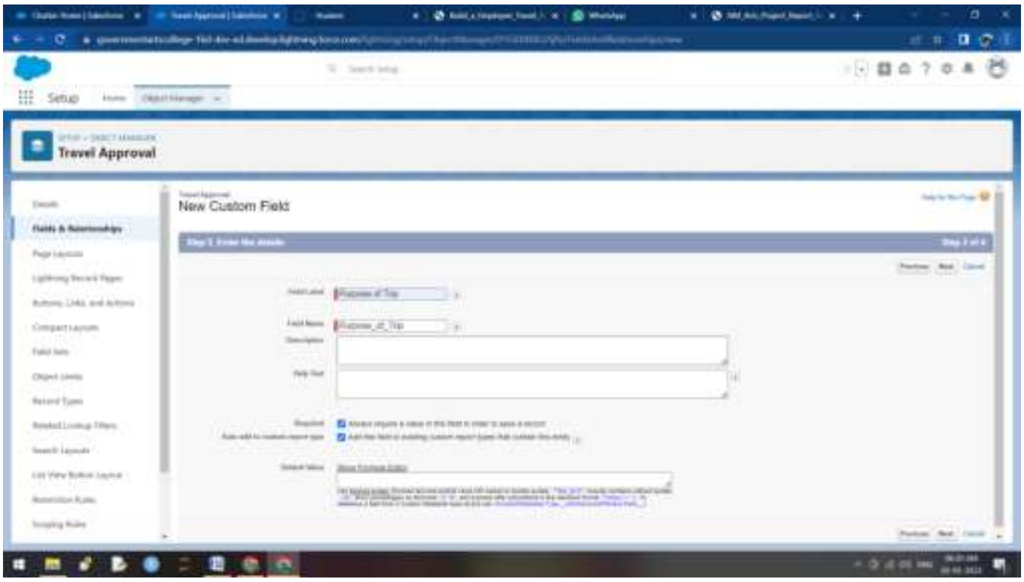
- Field label : Status , Data Type: Picklist (New,Submitted,Pending Approval,Approved,Rejected,Drafts)



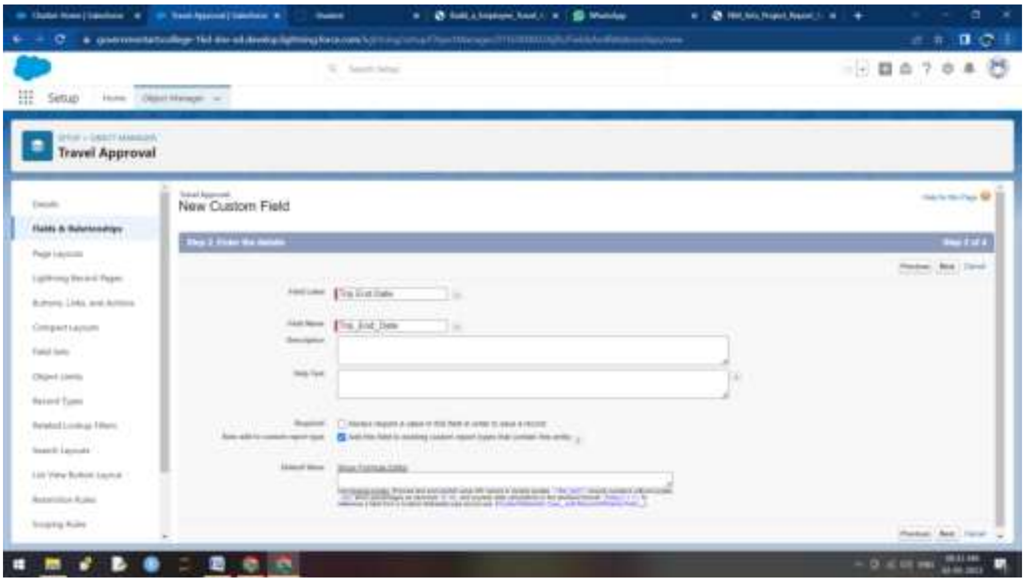
- Field label: Trip Start Date , Data Type: Date



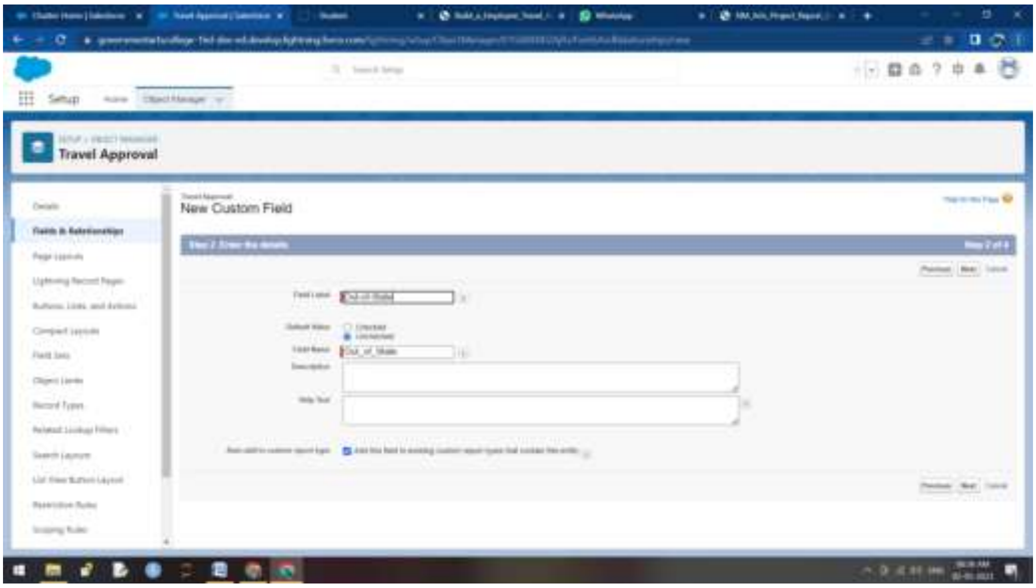
- Field label: Purpose of Trip, Data Type : Text



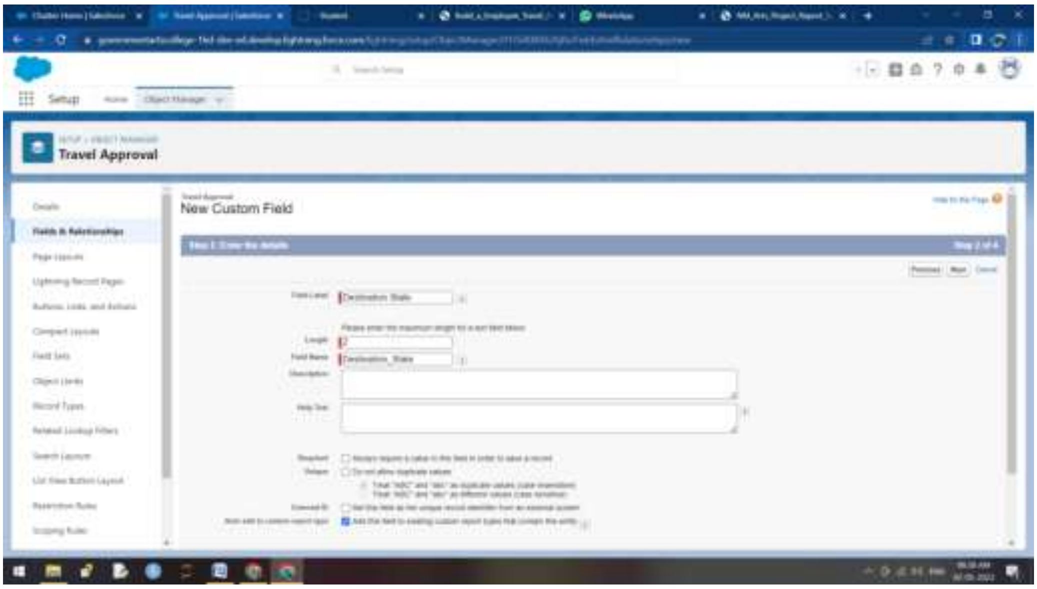
- Field label: Trip End Date , Data Type: Date



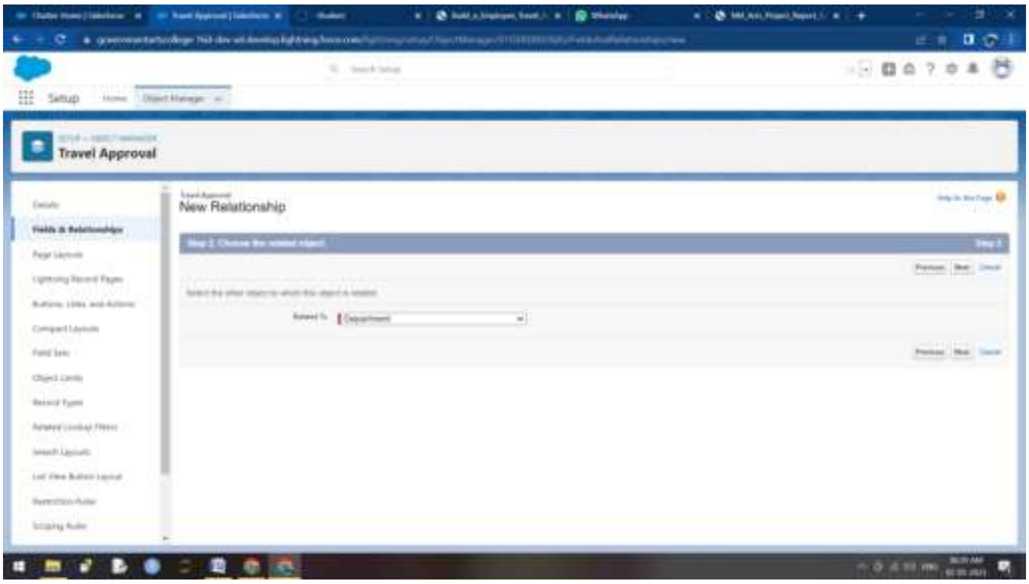
➢ Field label: Out-of-Date, Data Type : Checkbox

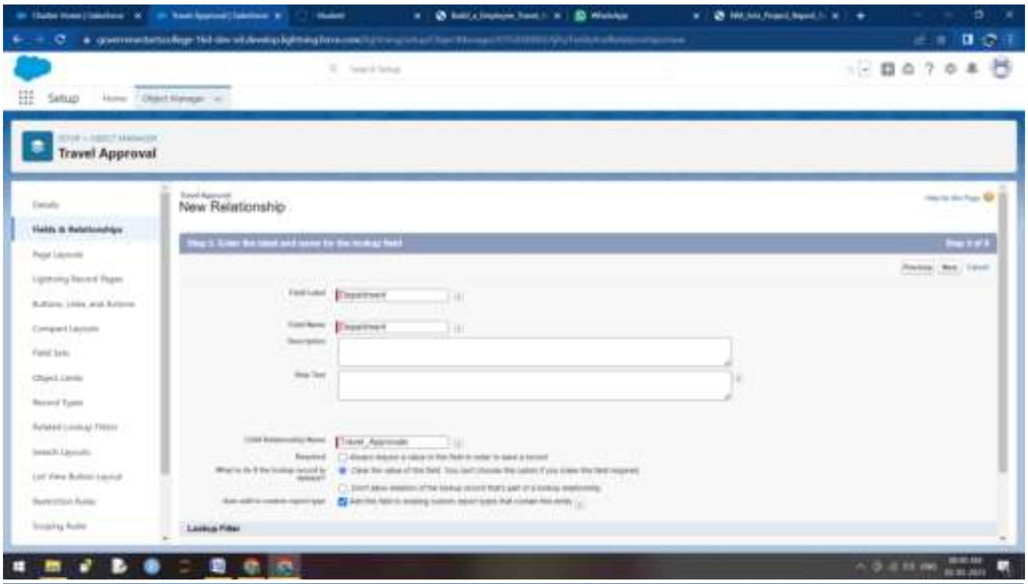


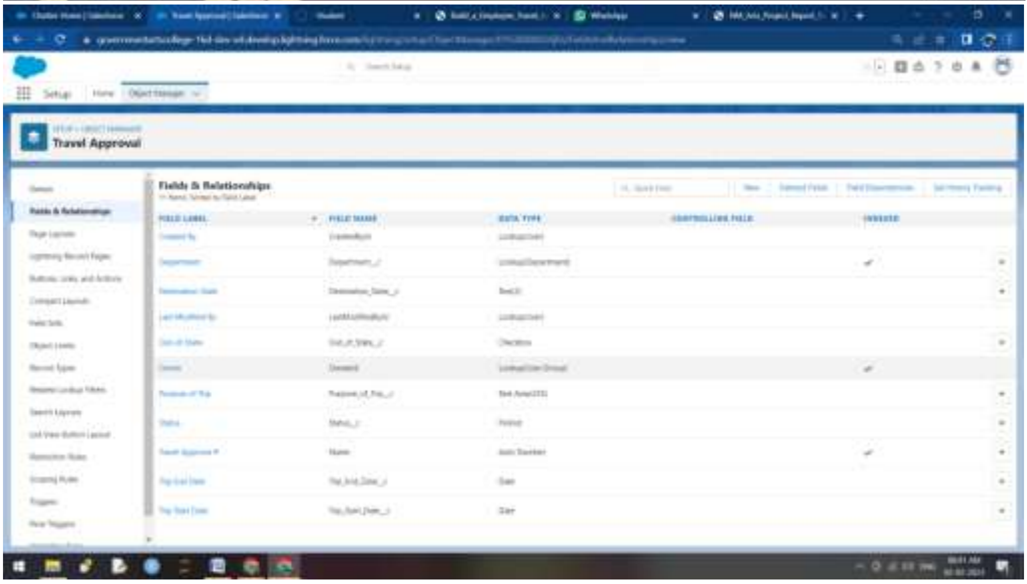
➢ Field label: Destination State, Data Type : Text



➢ Field label: Department, Data Type: Lookup Relationship

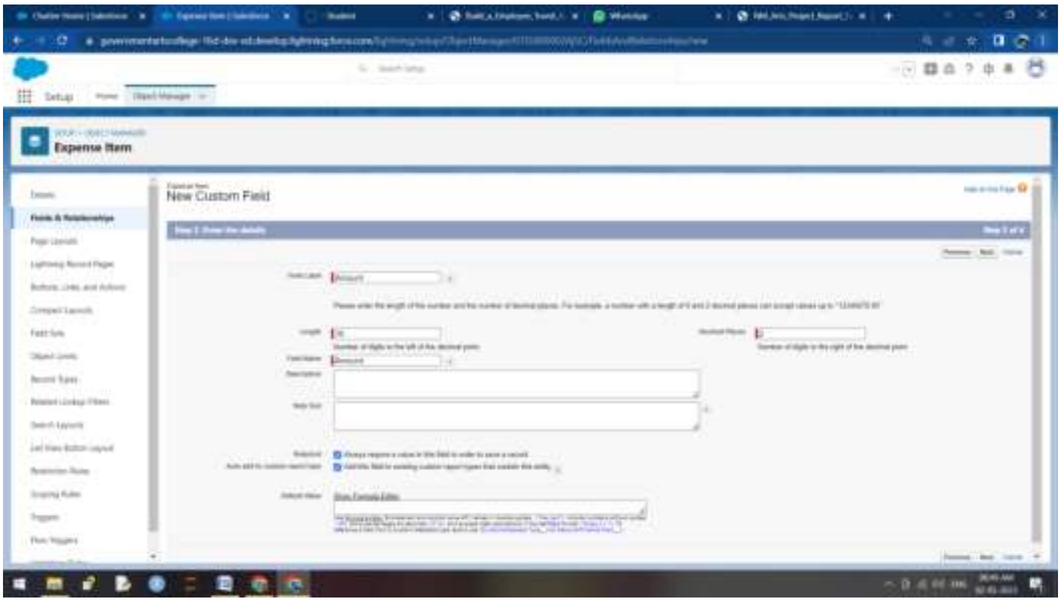




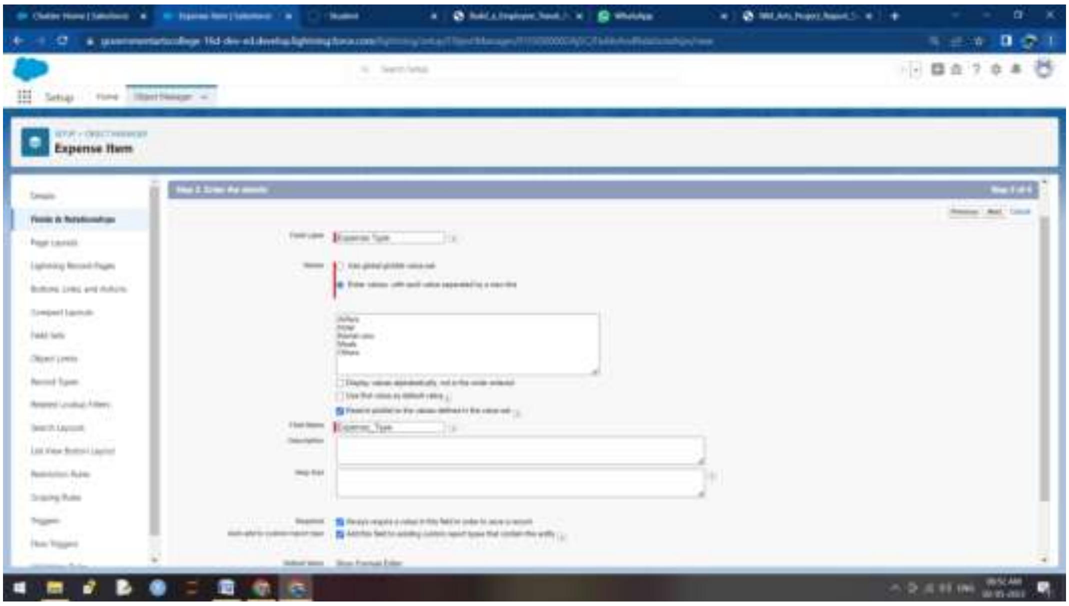


In the **Expense Item** Object , we create the fields as followed in the screenshots below.

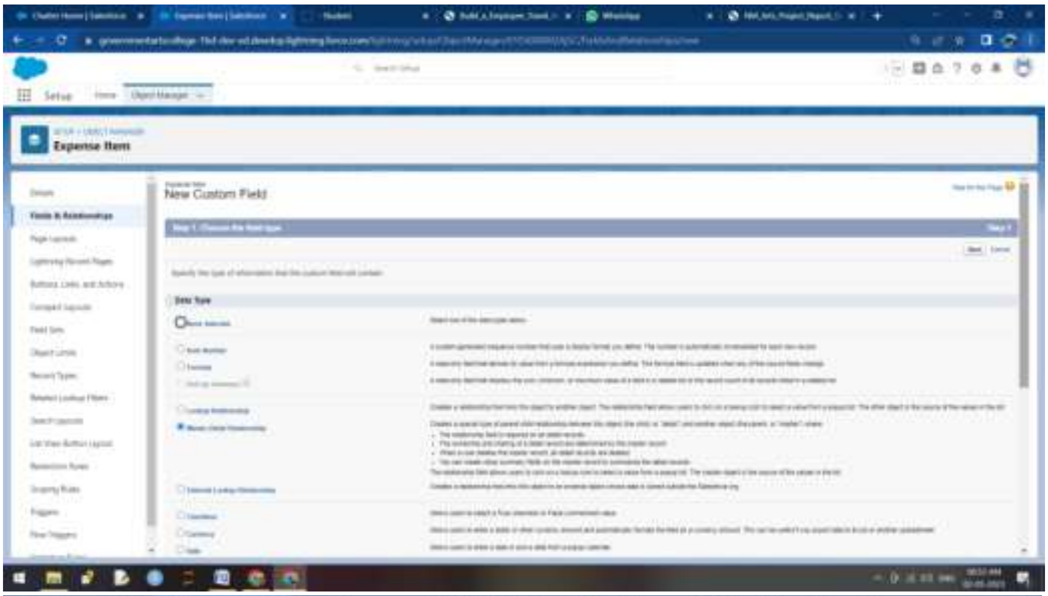
- Field label: Amount , Data Type: Currency(16,2)

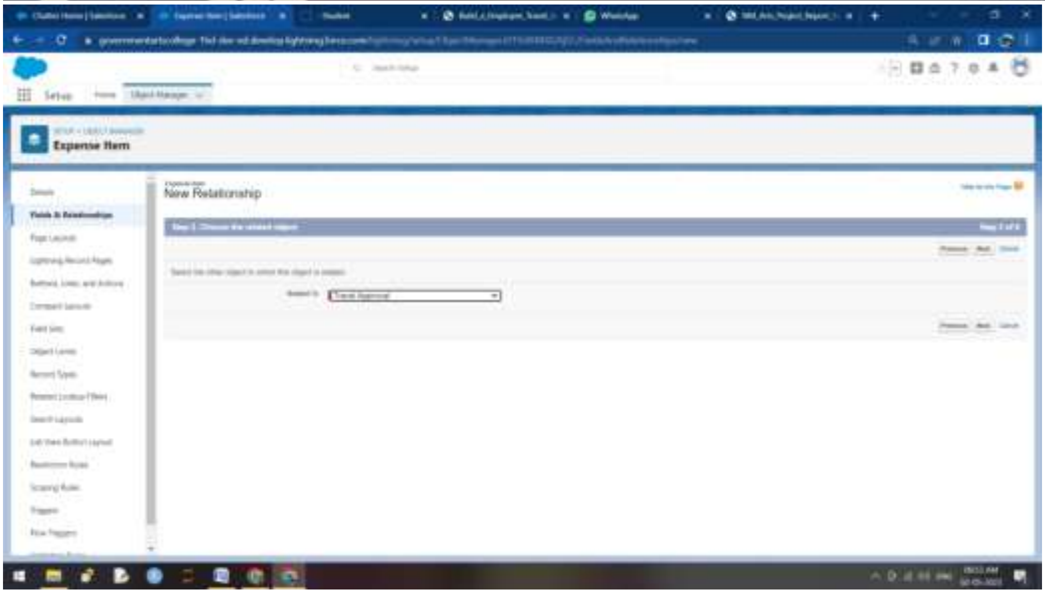


➢ Field label: Expense Type , Data Type: Picklist



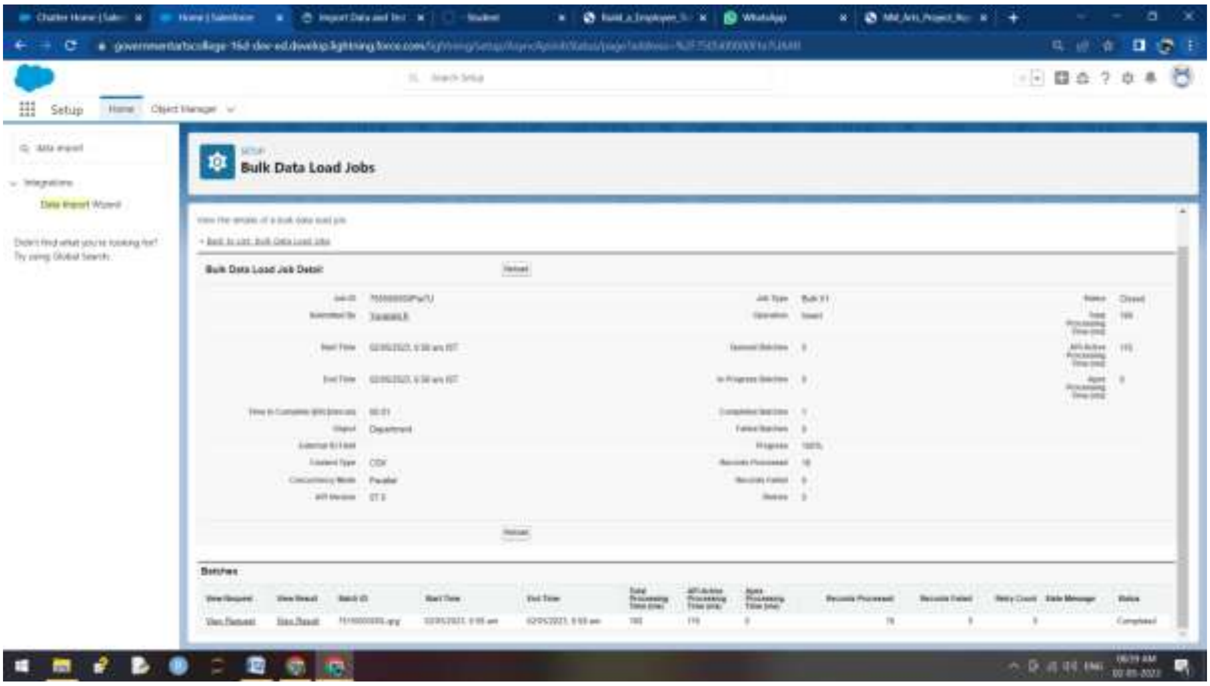
➢ Field label: Travel Approval , Data Type: Master-Detail (Travel Approval)





Entering Data Import in Quick find box and select data import wizard, Click Launch Wizard.

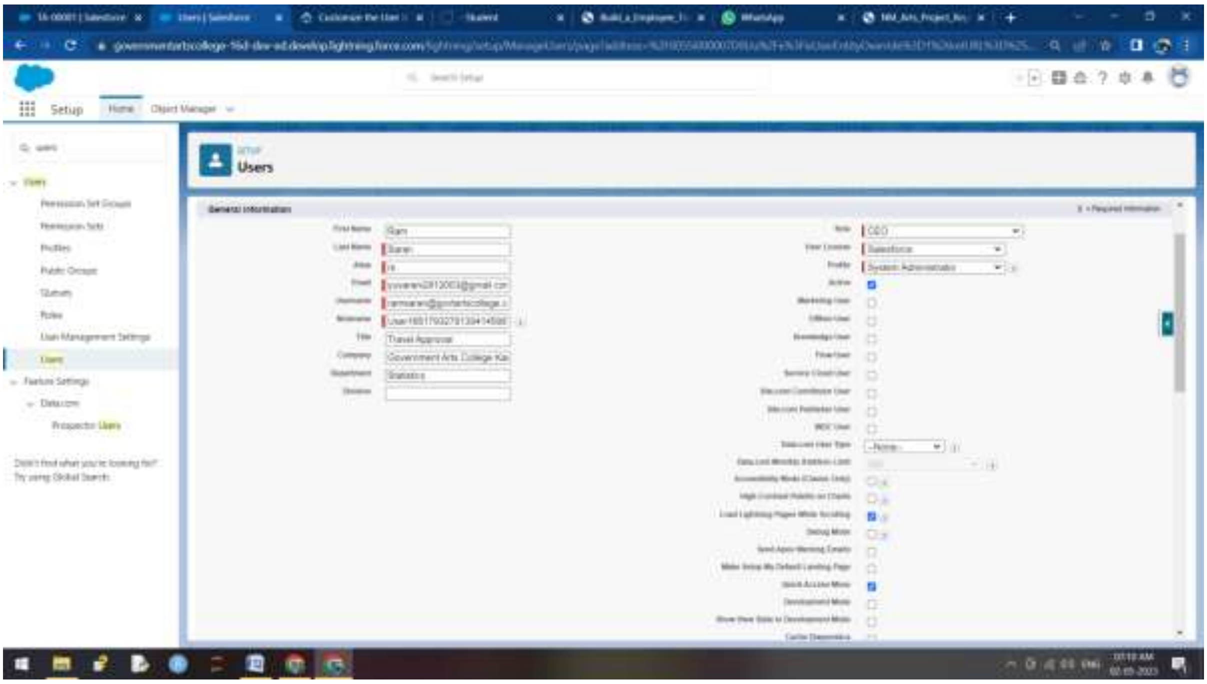
Import the data related to the Department objects,

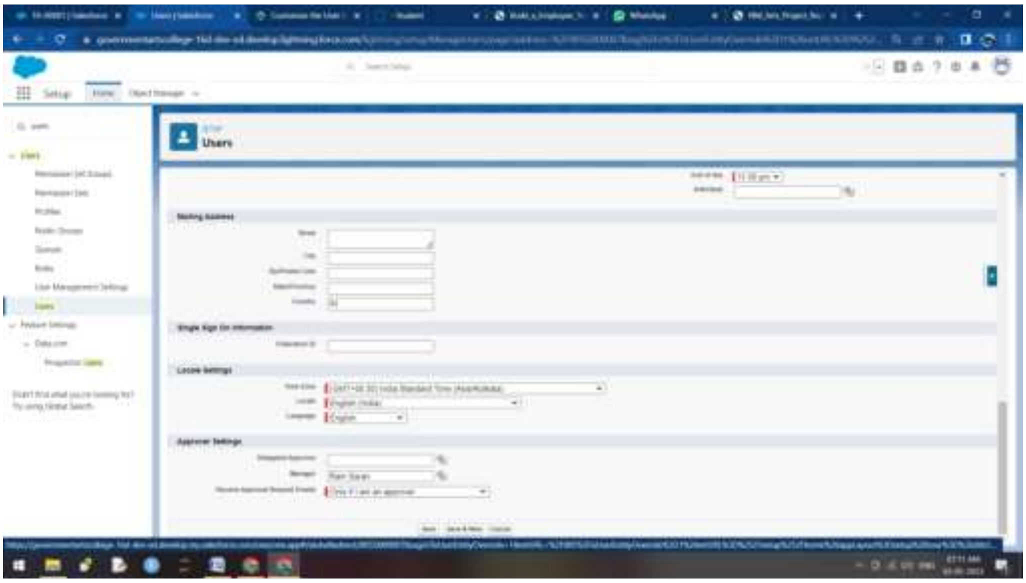


Customize User Interface:

In this Milestone , we are going to setup the users to customizing the page layouts,

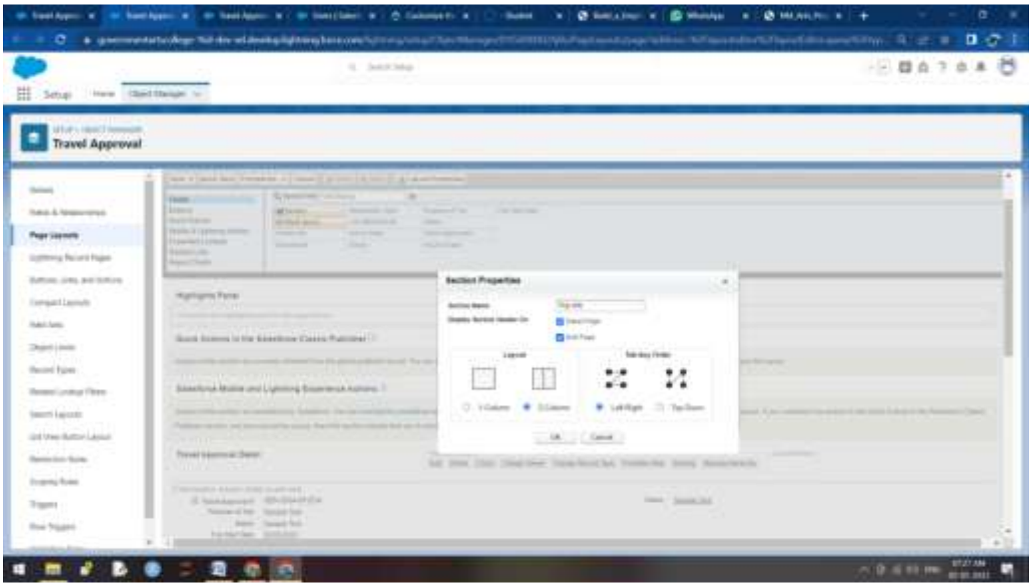
Creating a user with role as **CEO** and make him as Manger.



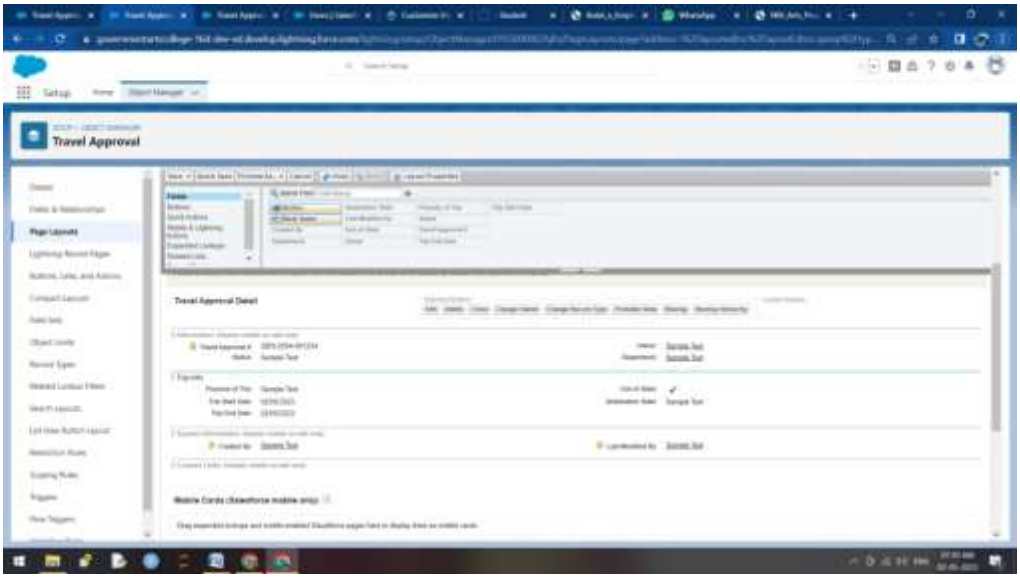


Customize the Travel Approval Object Page Layout

Creating the New section in the page layout , Name it as **Trip Info**



Then editing the section **Trip Info**



Add Business Logic to Travel App:

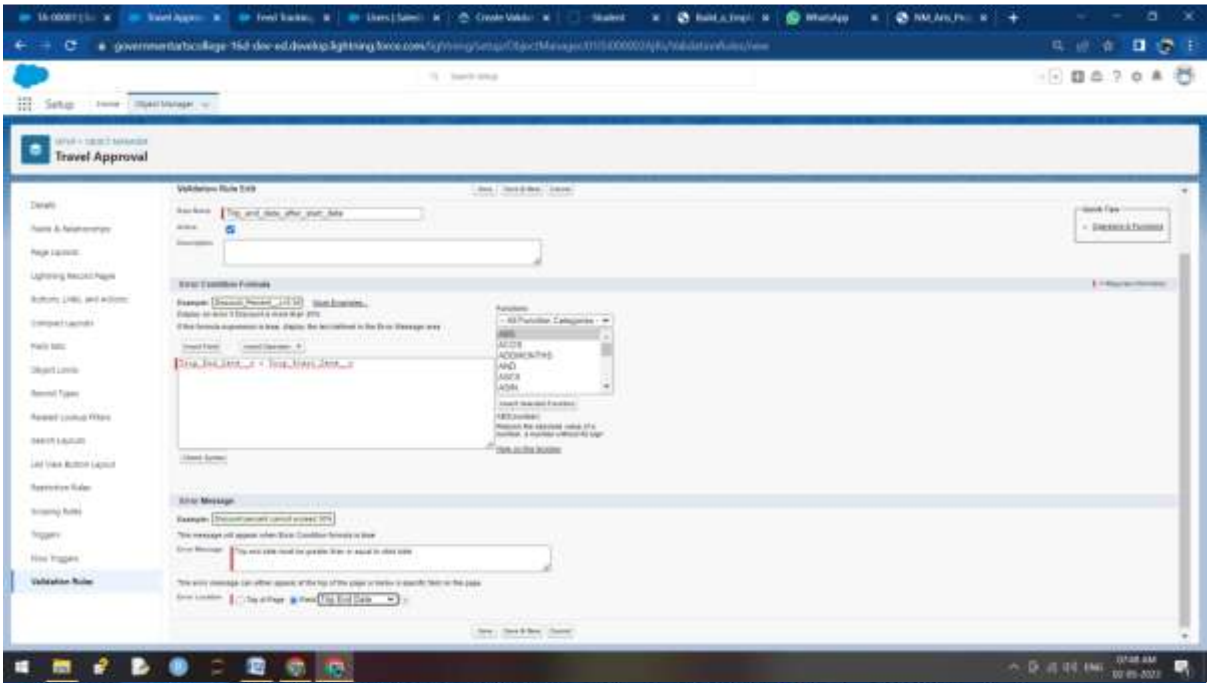
Create Validation Rule:

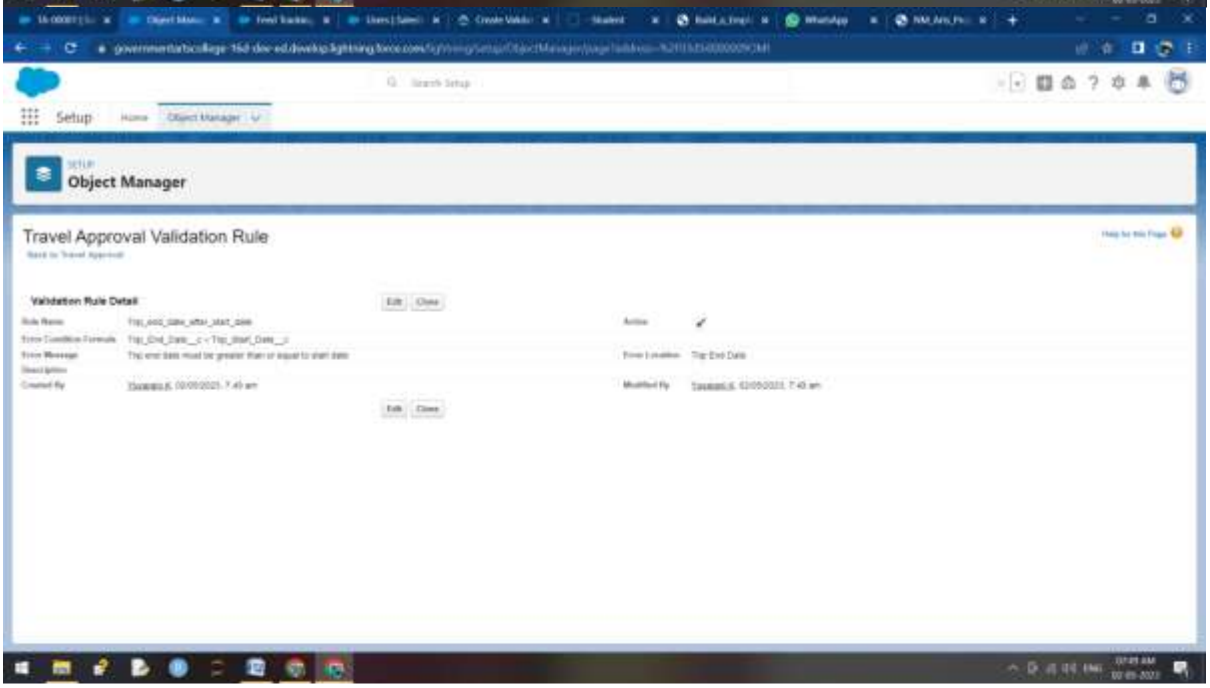
Rule Name: Trip end date after start date

Condition Formula: Trip_End_Date__c < Trip_Start_Date__c

Error Message: Trip end date must be greater than or equal to start date.

Error Location: Select Field-Trip End Date





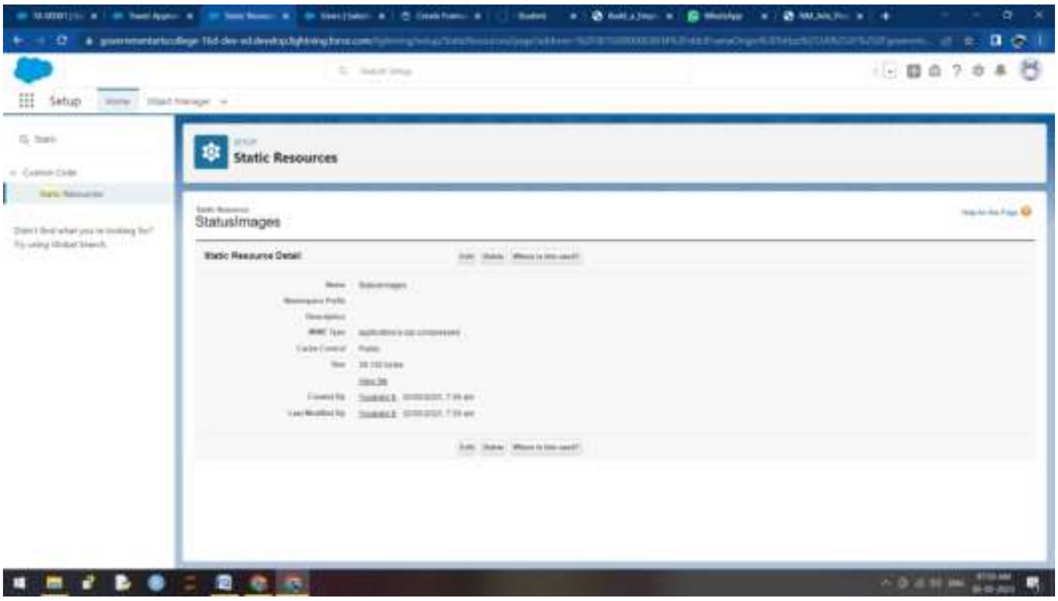
Create a Formula Fields:

Add a Static Resource:

Name : StatusImages

File: StatusImages.zip

Cache Control: Public



Next create a field with formula data type

Field Label: Status Indicator

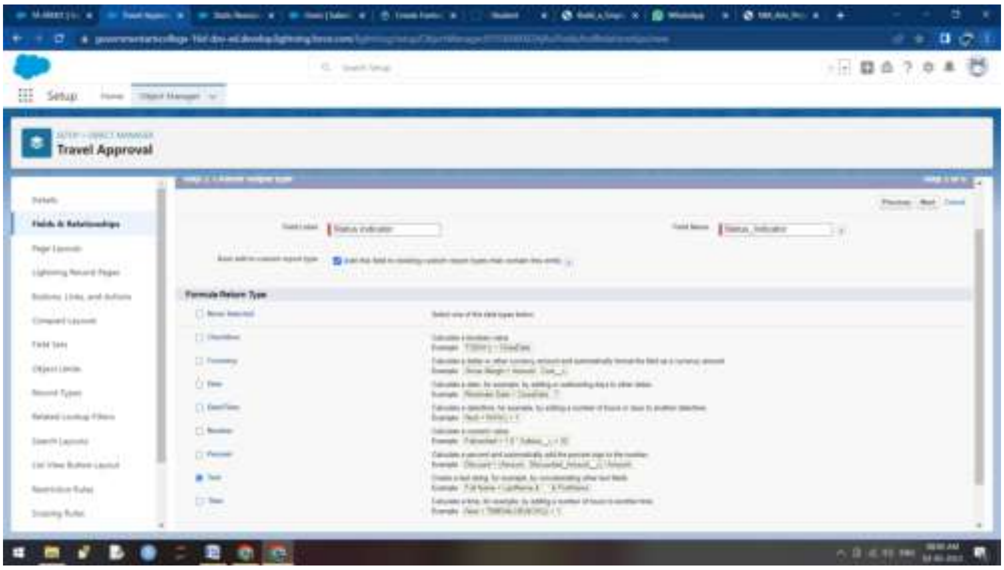
Formula Return Type: Text

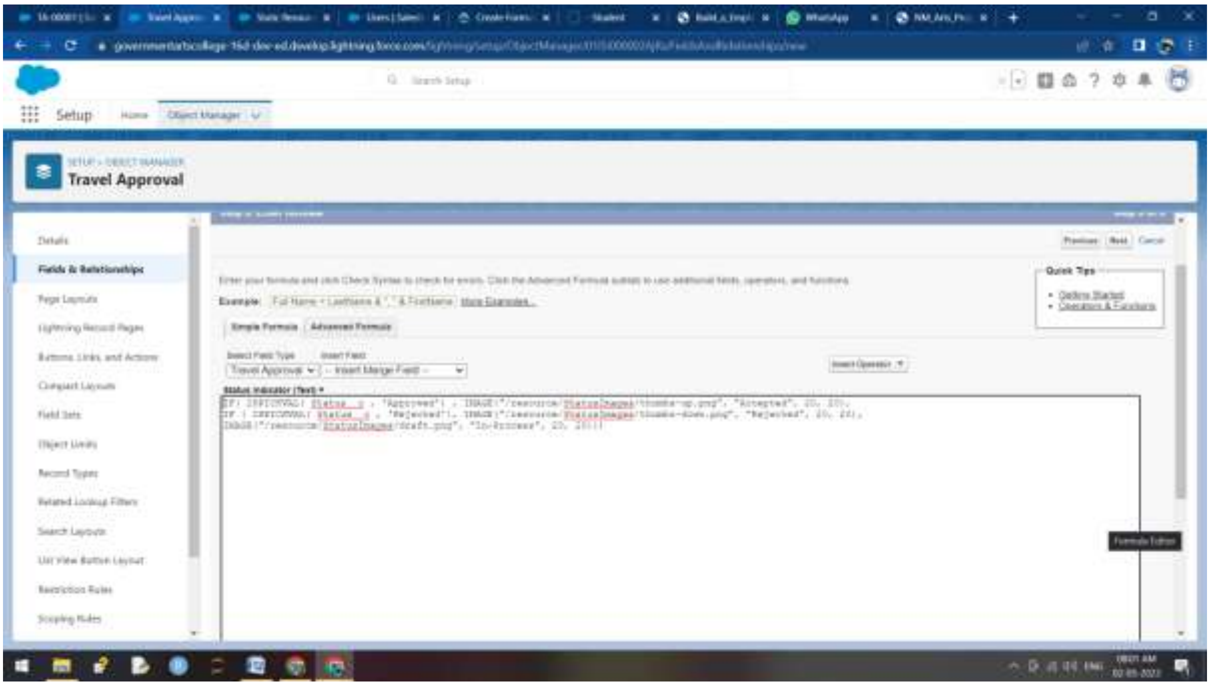
Formula :

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),

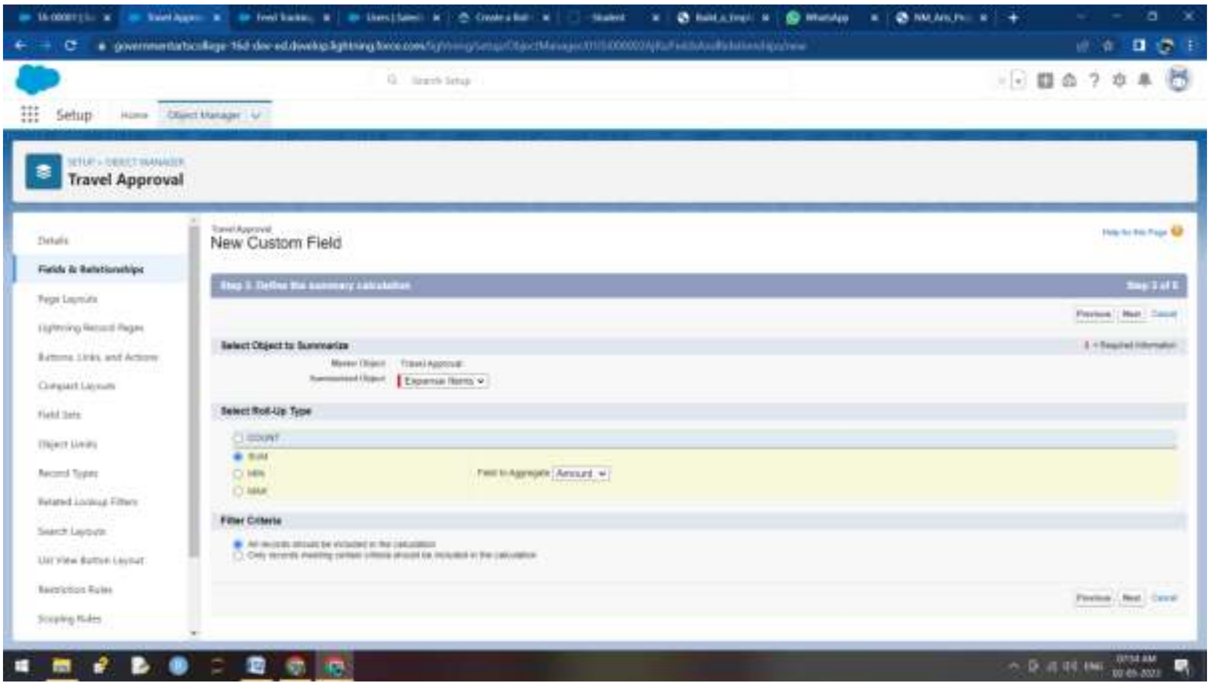
IMAGE("/resource/StatusImages/draft.png", "In-Process", 20, 20)))





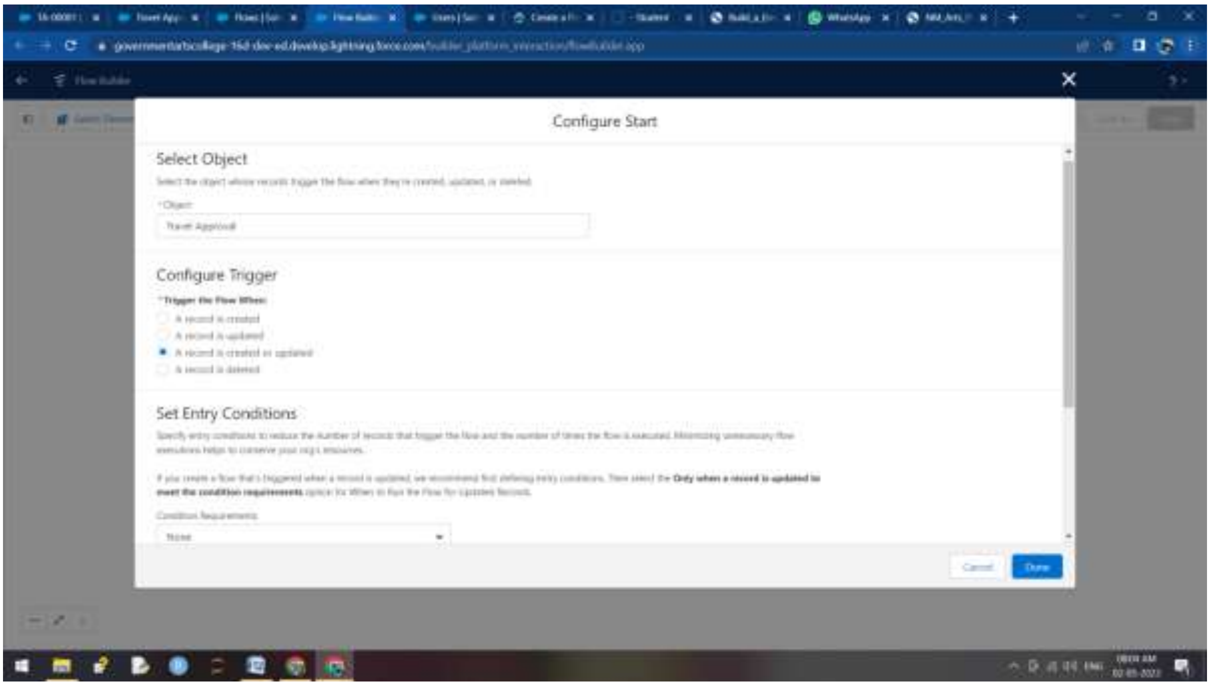
Create a Roll-Up Summary Field:

Field Label: Total Expenses
Summarized Object: Expense Items
Roll Up Type: SUM
Field to Aggregate: Amount
Filter Criteria: All records Should be included in the calculation.

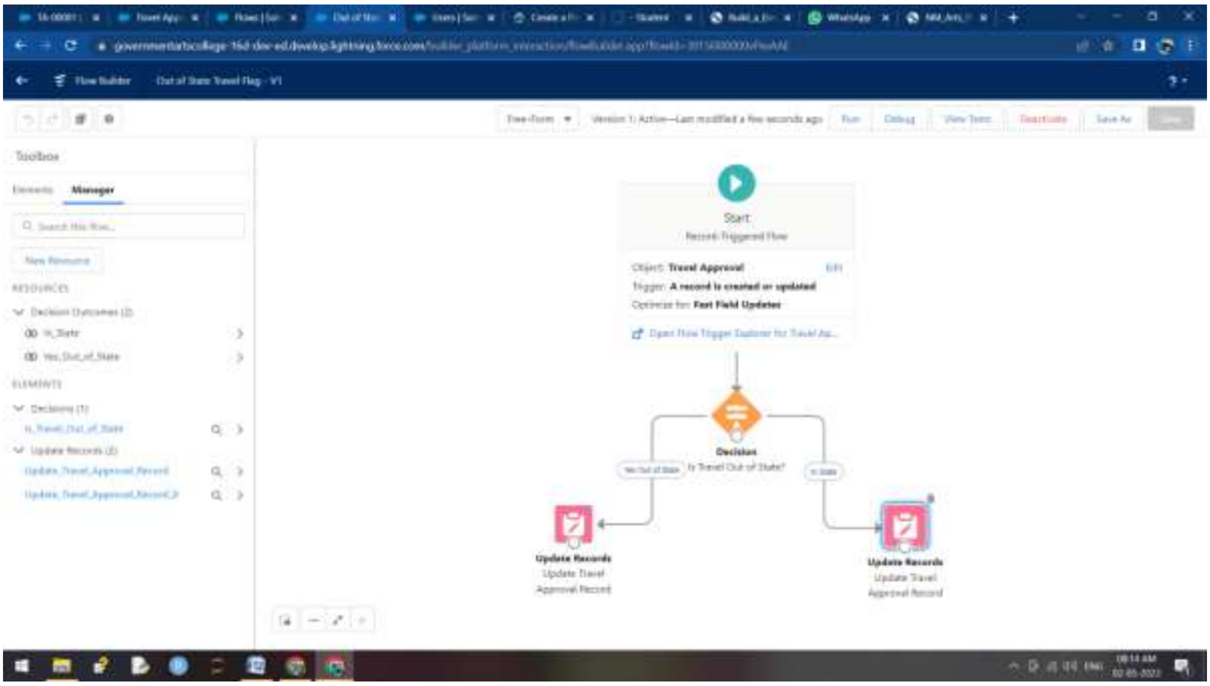


Create a Flow:

In the Layout dropdown, Select freeform



Creating the Flow in Flow Builder,



Reports:

Reports in Salesforce is a list of records that meet a particular criterion which gives an answer to a particular question. These records are displayed as a table that can be filtered or grouped based on any field.

There are 4 types of report formats in Salesforce:

1. Tabular Reports: This is the most basic report format. It just displays the row of records in a table with a grand total. While easy to set up they can't be used to create groups of data or charts and also cannot be used in Dashboards. They are mainly used to generate a simple list or a list with a grand total.

2. Summary Reports: It is the most commonly used type of report. It allows grouping of rows of data, view subtotal, and create charts.

3. Matrix Report: It is the most complex report format. Matrix report summarizes information in a grid format. It allows records to be grouped by both columns and rows. It can also be used to generate dashboards. Charts can be added to this type of report.

4. Joined Reports: These types of reports let us create different views of data from multiple report types. The data is joined reports are organized in blocks. Each block acts as a subreport with its own fields, columns, sorting, and filtering. They are used to group and show data from multiple report types in different views.

Report types:

Report type determines which set of records will be available in a report. Every report is based on a particular report type. The report type is selected first when we create a report. Every report type has a primary object and one or more related objects. All these objects must be linked together either directly or indirectly.

- A report type cannot include more than 4 objects.
- Once a report is created its report type cannot be changed.

There are 2 types of report types:

1. Standard Report Types:

Standard Report Types are automatically included with standard objects and also with custom objects where "Allow Reports" is checked.

Standard report types cannot be customized and automatically include standard and custom fields for each object within the report type. Standard report types get created when an object is created, also when a relationship is created.

Note: Standard report types always have inner joins.

2. Custom Report Types:

Custom report types are reporting templates created to streamline the reporting process. Custom Reports are created by an administrator or User with “Manage Custom Report Types” permission. Custom report types are created when standard report types cannot specify which records will be available on reports.

In custom report types we can specify objects which will be available in a particular report. The primary object must have a relationship with other objects present in a report type either directly or indirectly.

There are 3 types of access levels of folders:

1. Viewer: With this access level, users can see the data in a report but cannot make any changes except cloning it into a new report.

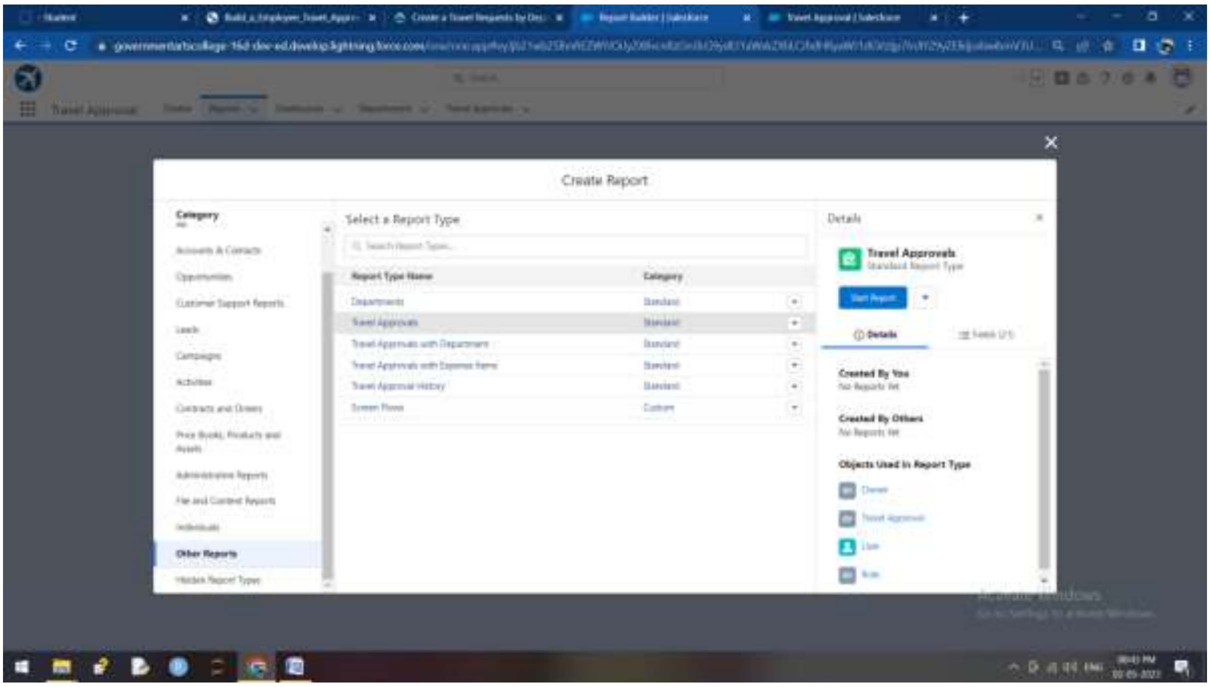
2. Editor: With this access level, users can view and modify the reports it contains and can also move them to/from any other folders they have access level as Editor or Manager.

3. Manager: With this access level, users can do everything Viewers & Editors can do, plus they can also control other user’s access levels to this folder. Also, users with Manager Access levels can delete the report.

Add Report:

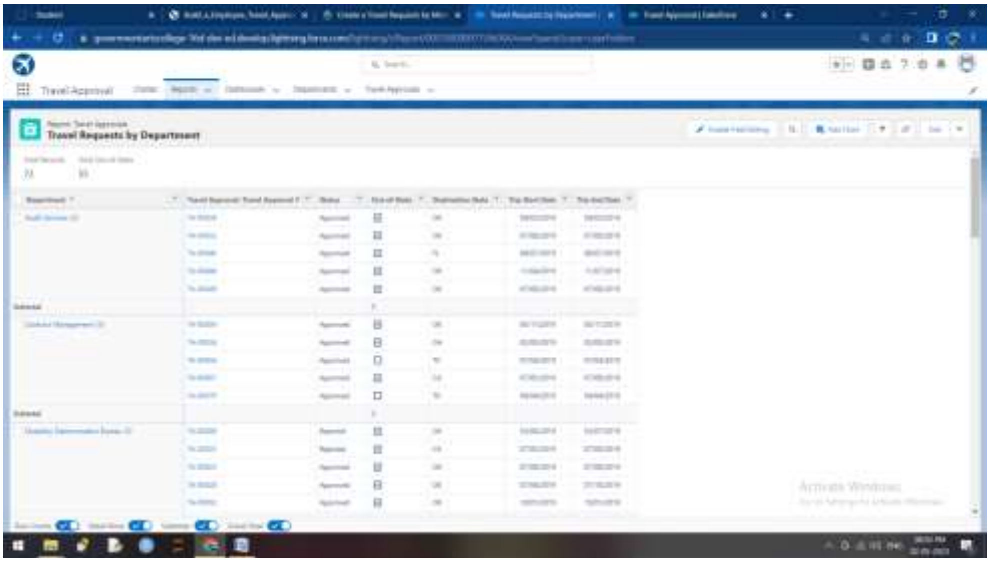
Create a Travel Requests by Department Report:

Choose Report Type as Travel Approvals and Start Report



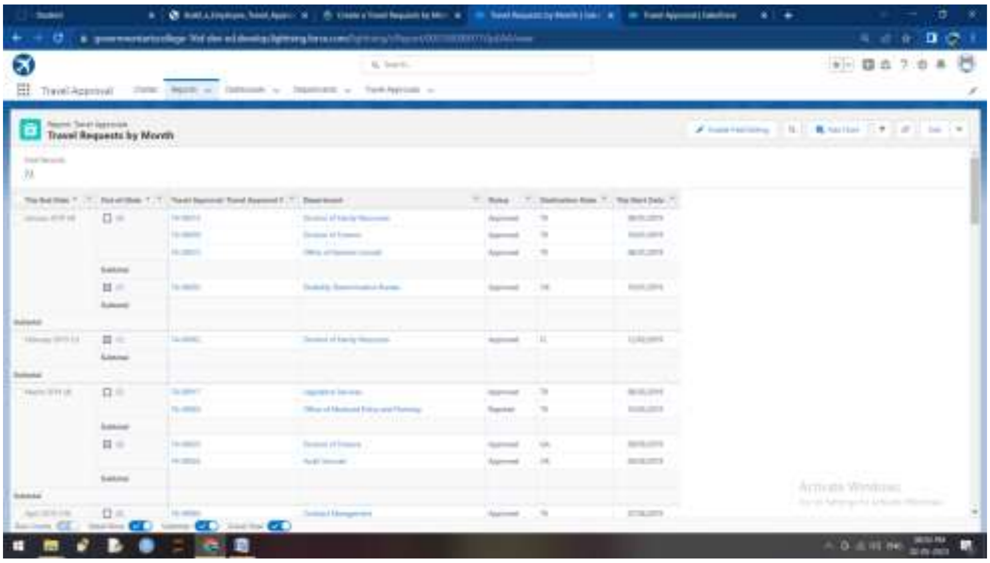
Report-1:

Report Name: Travel Requests by Department

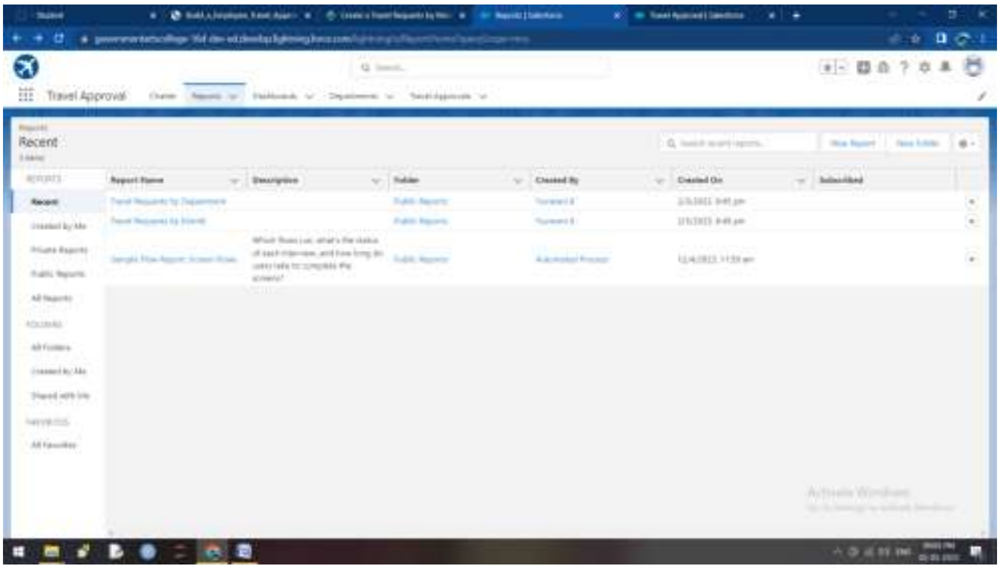


Report-2:

Report Name: Travel Requests by Month



Final Reports:



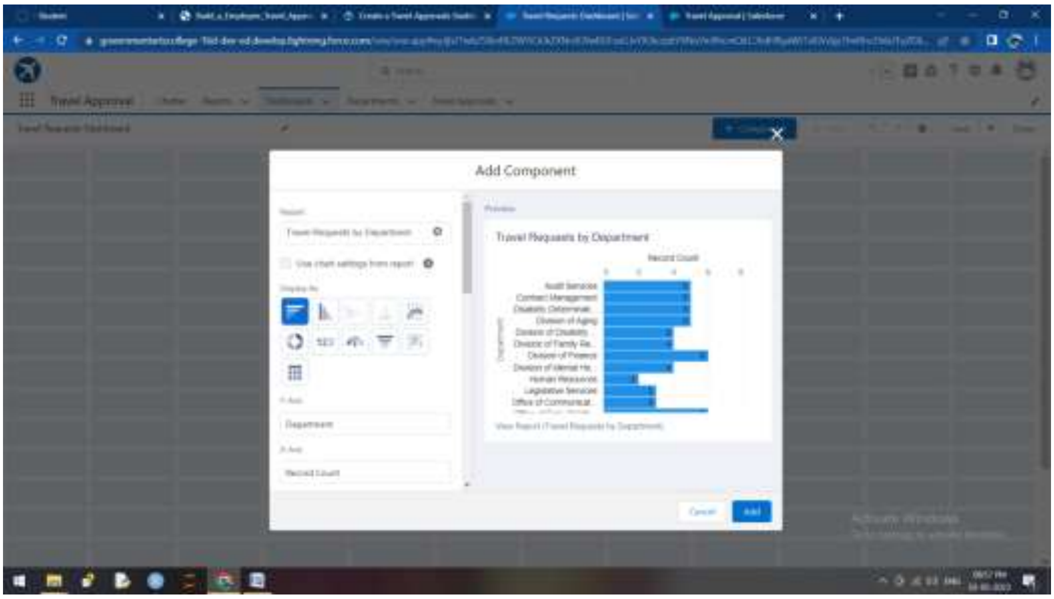
Dashboards:

Dashboards let you curate data from reports using charts, tables, and metrics. If your colleagues need more information, then they're able to view your dashboard's data-supplying reports. Dashboard filters make it easy for users to apply different data perspectives to a single dashboard.

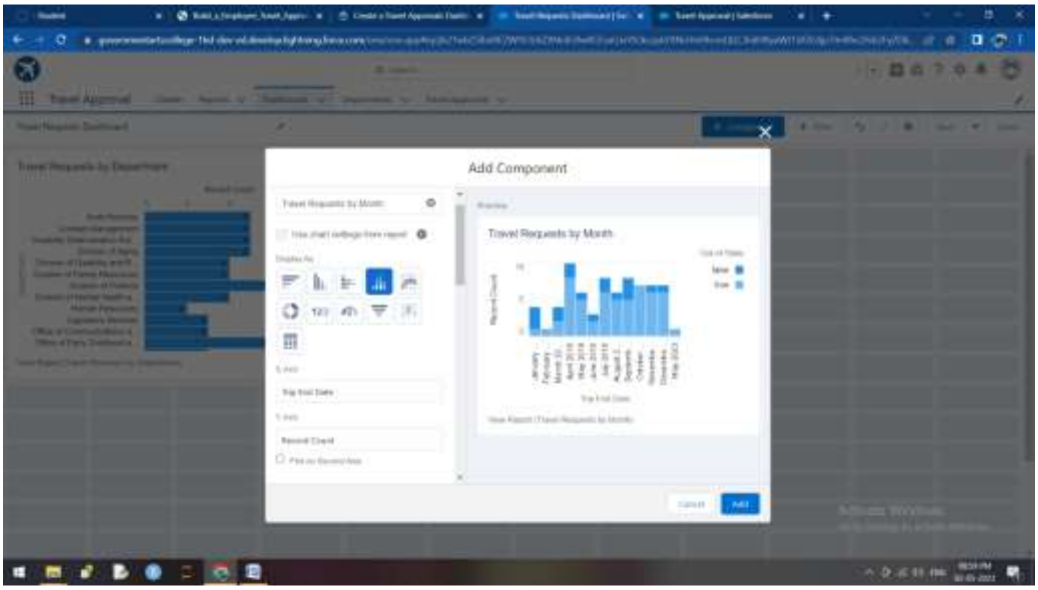
Creating the Dashboard:

Name : Travel Requests Dashboard
Folder : Private Dashboards

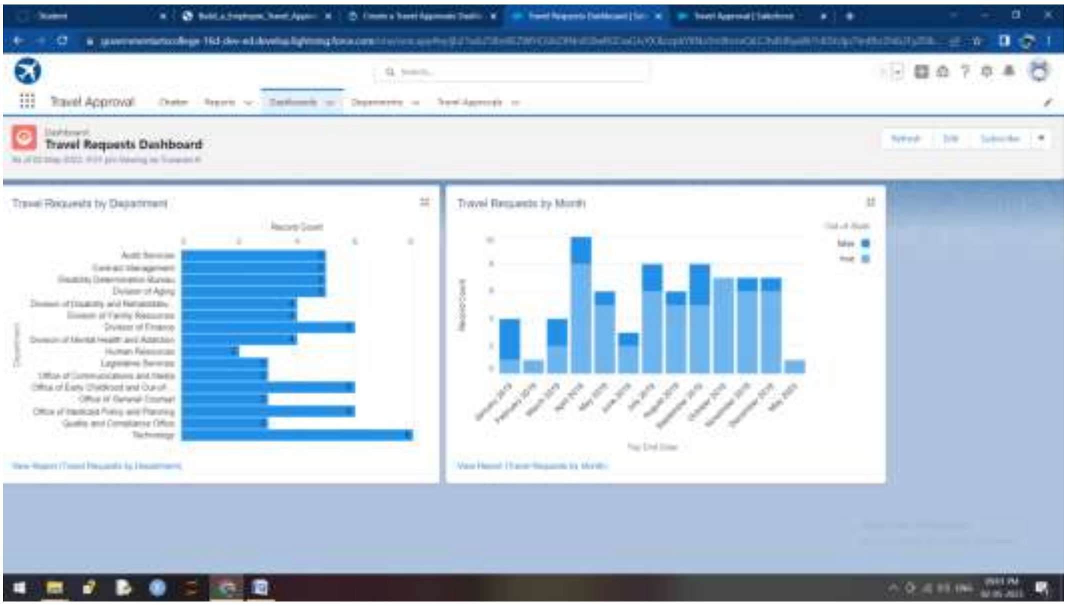
At First adding a component , by selecting the **Travel Request to Department**



Then selecting the **Travel Requests by Month**



Final Dashboard : "Travel Requests Dashboard"



Trailhead Profile Public URL:

Team Leader - Yuvarani K - https://trailblazer.me/id/yyuva18

Team Member - Sudharson K - https://trailblazer.me/id/sudhk44

Team Member - Sudhan Andavar K - https://trailblazer.me/id/sandavark

Team Member - Surya Prakash R - https://trailblazer.me/id/sprakash429

Advantages and Disadvantages:

Advantages:

- Travel approval is a procedure using which organizations enforce travel policies and prevent employees from overspending.
- Approvals on Time: The entire process of planning and managing a trip is a long and stressful process. This means your employees need to spend hours looking for travel options, by automating the approval workflow, you can simplify the process. Your employees no longer have to run behind a manager or finance team for approvers.
- Customize approval workflows: The approval process can differ from company to company. Using this software, you can customize the workflow based on your organization. You can set up multiple workflows within your organization, that will allow you to better manage your expense approval requests.

- Increase compliance and reduce costs: A well-defined expense approval workflow will help in reducing non-policy-complaint expenses in your firm. You can now prevent expense frauds such as duplicate bills , non-policy complaint items, manipulated invoices, etc.
- Faster Process: This software comes with both desktop and phone capabilities. This means approvers get notified of the travel requests sent by employees , which they can approve or reject fast. This reduces approval time and enhances the expense management process in your company.

Disadvantages:

- There is no enough guided technical support.
- It has some Security Issues.
- The Manual given for the project does not have enough details that are needed to be filled.
- The "Travel Approval workshop.zip files" given to data import wizard have many errors in Travel Approval.csv

Application:

- Travel approval is a procedure using which organizations enforce travel policies and prevent employees from overspending.
- Travel approval is a procedure using which organizations enforce travel policies and prevent employees from overspending.
- A travel request form helps gather employee trip details and allows you to reject or approve their travel and reimburse their expenses.

Conclusion:

We worked well on this project. Employee Travel Approval Application makes the steps easier and quicker by not wasting the time and money.

Future Scope:

For the future, first of all rectify the project manual for the next batch students , it will help them to do and learn about the project.

"This project is very useful to develop our Skills and Knowledge."

THANK YOU!