

The background features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic look. The text is centered in a white serif font.

BUILD AN EMPLOYEE TRAVEL APPROVAL APPLICATION FOR CORPORATES

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Submitted by

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PG and Research Department of MATHEMATICS

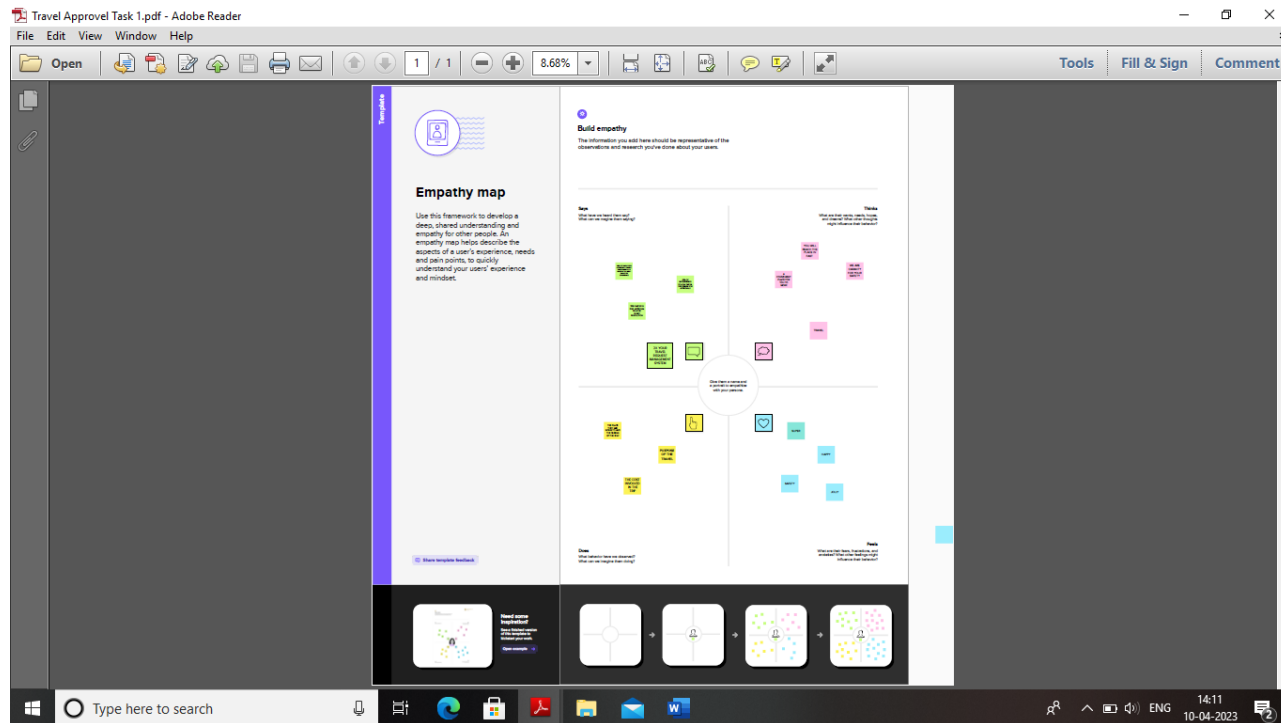


**M.V.MUTHIAH GOVERNMENT ARTS COLLEGE FOR WOMEN
DINDIGUL-624001.**

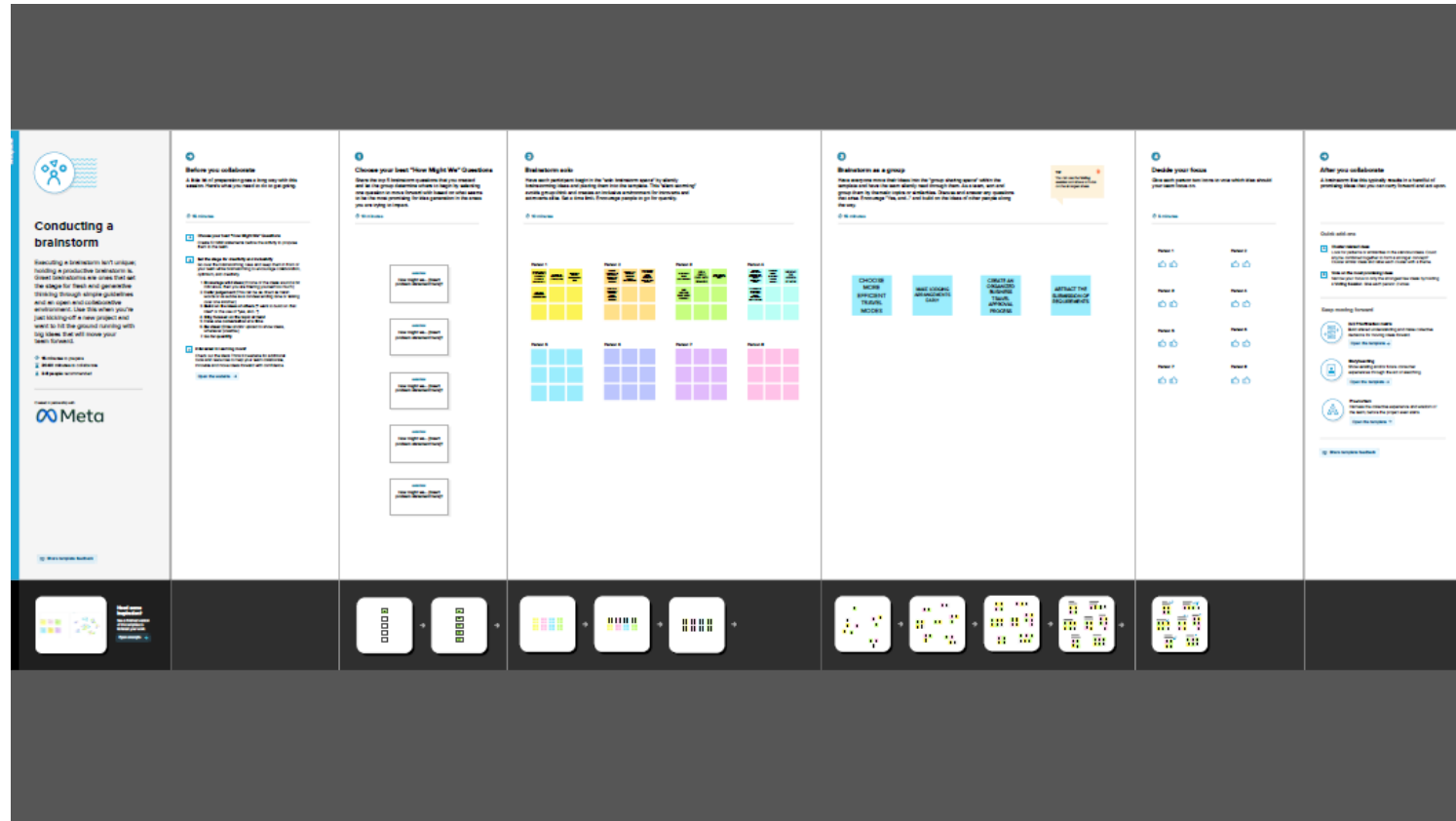
Introduction

Salesforce is your customer success platform, designed to help you sell, service, market, analyze, and connect with your customers.

2.1 Empathy Map



IDEATION & BRAINSTORMING MAP



Milestone 1- Create Salesforce Org:

Activity-1:

Creating Developer Account

Creating a developer org in salesforce.

1. Go to developers.salesforce.com/
2. Click on sign up.
3. On the sign-up form, enter the following details:
 1. First name & Last name
 2. Email
 3. Role: Developer
 4. Company: College Name
 5. County: India
 6. Postal Code: pin code
 7. Username: should be a combination of your name and company

This need not be an actual email id, you can give anything in the format:

username@organization.com

Milestone 2 Creating the Application:

Activity-1:

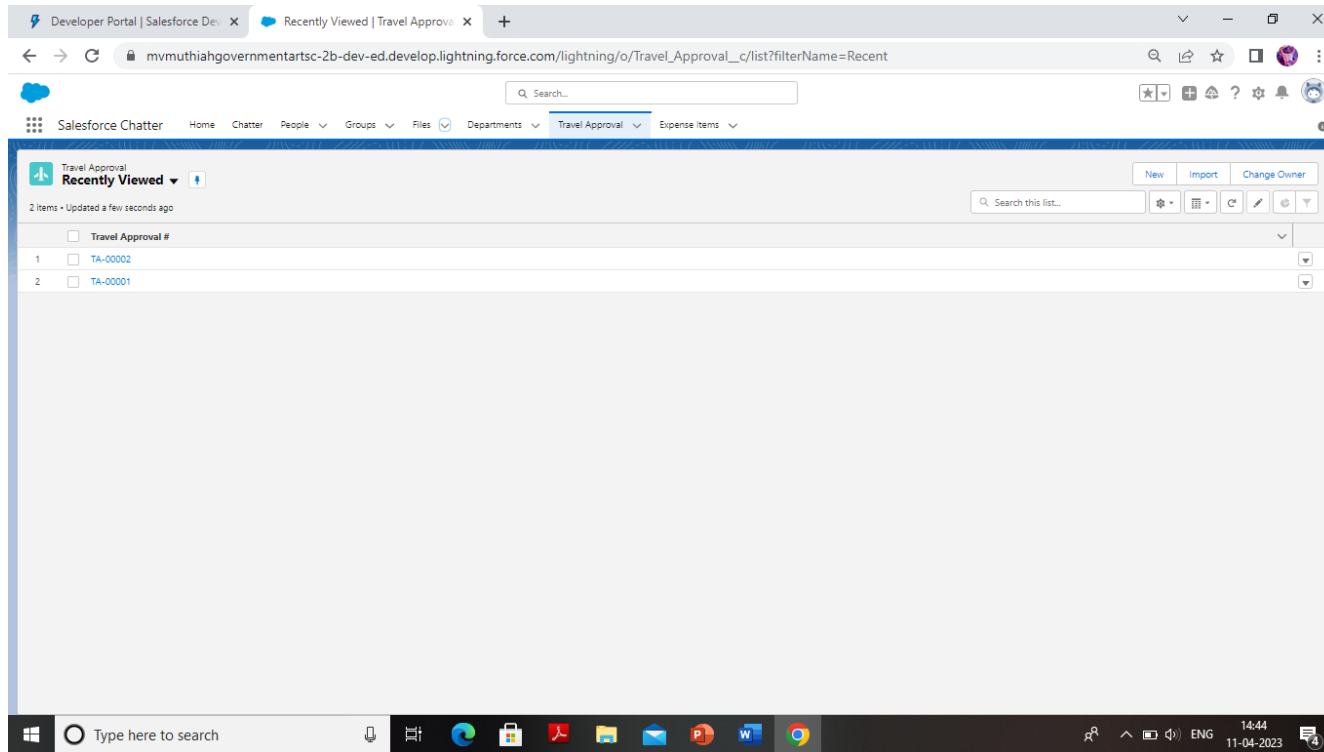
Create the Travel Application

Search AppManager in quick find box, click on new lightning app. Before creating the application download this zip file and extract

it.<https://developer.salesforce.com/files/TravelAppWorkshopFiles.zip>

Steps

- From Setup, enter App Manager in the Quick Find and select App Manager.
- Click New Lightning App. Enter Travel Approval as the App Name, then click Next



- Under App Options, leave the default selections and click Next.
- Under Utility Items, leave as is and click Next.
- From Available Items, select Department, Travel Approval, Expense Item, Reports, and Dashboards and move them to Selected Items. Click Next.

- From Available Profiles, select System Administrator and move it to Selected Profiles. Click Save & Finish.
- To verify your changes, click the App Launcher, type Travel Approval and select the Travel Application app.

Milestone 3

Activity-1:

Custom Object Creation

1. After you Login to your org, click create on the right side of the page and select custom object.

.

To create an object:

From the setup page → Click on Object Manager → Click on Create → Click on Custom Object.

On Custom object defining page:

Enter the label name, plural label name, click on Allow reports, Allow search → Save.

Activity-2

Create 3 custom objects and tabs

- a) Department
- b) Travel Approval
- c) Expense Item

Create Department Object

- 1.From Setup, click Object Manager.
- 2.Click Create, then select Custom Object.
- 3.Give the name as Department

To Navigate to Setup page:

Click on gear icon → click setup.

To create an object:

From the setup page → Click on Object Manager → Click on Create → Click on Custom Object.

On Custom object defining page:

Enter the label name, plural label name, click on Allow reports, Allow search → Save.

4.Now the tabs section opens, add this tab to the travel app.

Create Travel Approval Object

- 1.Navigate back to Object Manager
2. Click Create then select Custom Object.
- 3.Enter these details

Parameter	Value
Label	TravelApproval
Plural Label	TravelApprovals
Object Name	Travel_Approval
Record Name	Travel Approval #
Datatype	Auto Number
DisplayFormat	TA-{00000}
Starting Number	1

Windows Taskbar

Home | Salesforce

mvmtuthiahgovernmentartsc-2b-dev-ed.develop.lightning.force.com/lightning/setup/SetupOneHome/home

...d.develop.lightning.force.com wants to
Show notifications
Allow Block

Setup Home

Service Setup Assistant

Multi-Factor Authentication Assistant

Release Updates

Lightning Experience Transition Assistant

Salesforce Mobile App

Lightning Usage

Optimizer

ADMINISTRATION

Users

Data

Email

PLATFORM TOOLS

Subscription Management

Apps

Feature Settings

Home

Create

Get Started with Einstein Bots

Launch an AI-powered bot to automate your digital connections.

Get Started

Mobile Publisher

Use the Mobile Publisher to create your own branded mobile app.

Learn More

Real-time Collaborative Docs

Transform productivity with collaborative docs, spreadsheets, and slides inside Salesforce.

Get Started

Most Recently Used

7 items

NAME	TYPE	OBJECT
Expense Item	Custom Object Definition	



Windows Taskbar

Home | Salesforce

mvmtuthiahgovernmentartsc-2b-dev-ed.develop.lightning.force.com/lightning/setup/SetupOneHome/home

Search Setup

Setup Home Object Manager

Quick Find

Setup Home

- Service Setup Assistant
- Multi-Factor Authentication Assistant
- Release Updates
- Lightning Experience Transition Assistant
- Salesforce Mobile App
- Lightning Usage
- Optimizer

ADMINISTRATION

- > Users
- > Data
- > Email

PLATFORM TOOLS

- > Subscription Management
- > Apps
- > Feature Settings

Launch an AI-powered bot to automate your digital connections.
Get Started

Use the Mobile Publisher to create your own branded mobile app.
Learn More

Transform productivity with collaborative docs, spreadsheets, and slides inside Salesforce.
Get Started

Most Recently Used

7 items

NAME	TYPE	OBJECT
Expense Item	Custom Object Definition	
Expense Items	Custom Tab Definition	Expense Item
Travel Approval	Custom Object Definition	
Travel Approval	Custom Tab Definition	Travel Approval
Department	Custom Object Definition	
Departments	Custom Tab Definition	Department
ASLIN ARUNA	User	

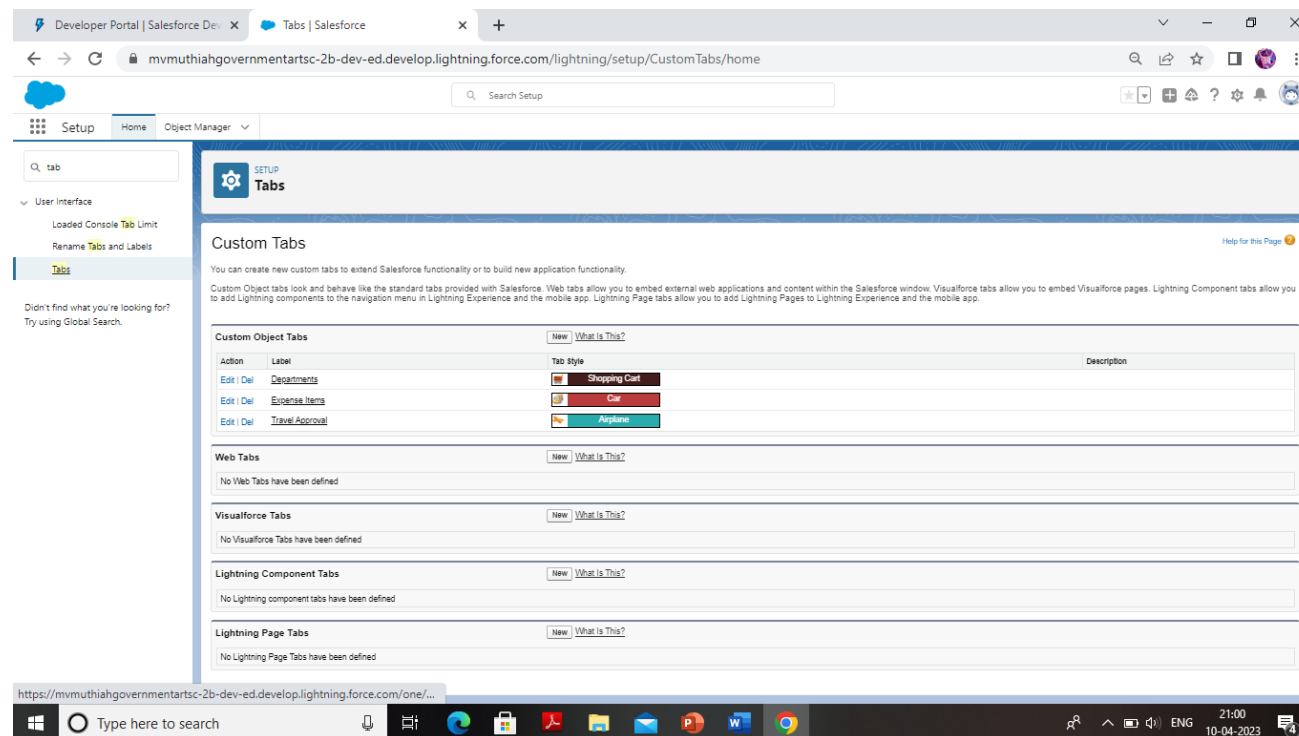
11:25

08-03-2023

Milestone 4

Activity-1:

Now create a custom tab. Click the Home tab, enter Tabs in Quick Find and select Tabs. Under Custom Object Tabs, click New.



1. For Object, select Event.
2. For Tab Style, select any icon.
3. Leave all defaults as is. Click Next, Next, and Save.

Milestone 4 Create- Fields& Relationships :

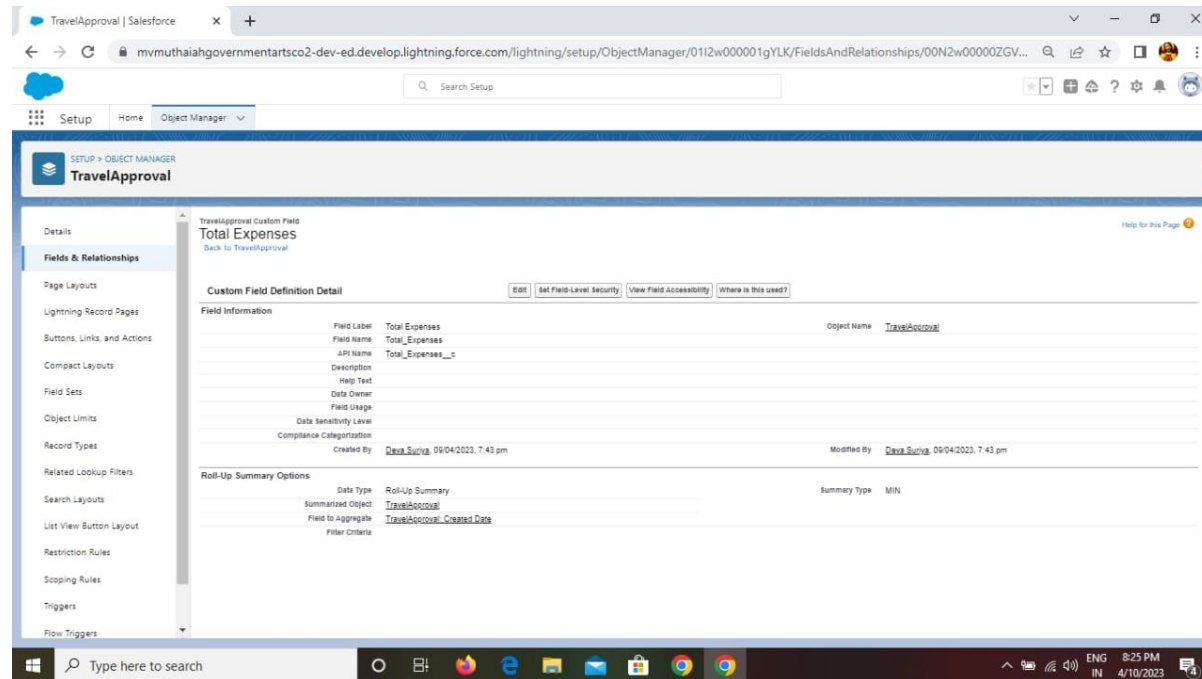
Activity-1:

1. Click Fields & Relationships, and click New.
2. For data type, select Currency.
3. Enter these details.
 - a. For Field Label, enter Amount
 - b. For Length, enter 16
 - c. For Decimal places, enter 2
 - d. Select Required
4. Click Next, Next, then Save & New.

Activit-2

Create the Expense Type field.

- Select Picklist as the data type.
- Select Enter values, with each value separated by a new line.
- Add these values:(Airfare, Hotel, RentalCars, Meals,Others)
- Select Required.
- Click Next, Next, then Save & New.



Activit-3:

Create the Travel Approval field.

- Select Master-Detail Relationship data type, click Next.
- Select Travel Approval from the Related To menu.
- Click Next four times, then click Save.

The screenshot shows the Salesforce Setup interface for the 'TravelApproval' field. The browser address bar indicates the URL: `mvmuthaiahgovernmentartscsco2-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/0112w000001gYLK/FieldsAndRelationships/Name/view`. The page title is 'TravelApproval Field' and the sub-header is 'Travel Approval #'. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), 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, and Flow Triggers. The main content area shows the 'Field Information' section with the following details:

Field Label	Travel Approval #
Data Type	Auto Number
Description	
Data Owner	
Field Usage	
Data Sensitivity Level	
Compliance Categorization	
Display Format	TA-00000

At the bottom of the page, the Windows taskbar is visible, showing the search bar and various application icons. The system clock indicates the time is 8:25 PM on 4/10/2023.

Milestone 5-Import Departments

Activity-1:

From Setup, click the Home tab.

1. In the Quick Find box, enter Data Import and select Data Import Wizard.
2. Click Launch Wizard!

Click the Custom Objects tab and select the Departments object.

3. Next, select Add new records.
4. Drag and drop the Departments.csv file you downloaded using zip file or click the CSV icon and browse to select your file. Select Next.
5. Since the field names in the CSV file (CSV Header) are the same as the field names in your object (Mapped Salesforce Object), the fields are automatically mapped. Click Next.
6. The next screen gives you a summary of your data import. Click Start Import.
7. Click OK on the popup.
8. This takes you to the bulk import summary window that shows that the process has completed and 16 records have been successfully imported or processed. You'll also get an email notification confirming the import.

Milestone 6-Customize User Interface

Activity-1:

Create User and Setup Approvals

The screenshot shows the Salesforce 'Users' setup page in a web browser. The browser address bar shows the URL: `mvmuthaiahgovernmentartsco2-dev-ed.develop.lightning.force.com/lightning/setup/ManageUsers/page?address=%2F0052w00000GDu3p%3Fnoredirect%3D1%2...`. The Salesforce interface includes a left sidebar with navigation options: Setup, Home, Object Manager, and a search bar. The main content area is titled 'Users' and displays the details for a user named 'Deva Suriya'. The user details are organized into two columns. The left column contains fields for Name, Alias, Email, Username, Nickname, Title, Company, Department, Division, Address, Time Zone, Locale, Language, Delegated Approver, Manager, Receive Approval Request Emails, Federation ID, App Registration: One-Time Password Authenticator, App Registration: Salesforce Authenticator, Security Key (U2F or Webauthn), and Lightning Login. The right column contains fields for Role, User License, Profile, Active, Marketing User, Offline User, Knowledge User, Flow User, Service Cloud User, Site.com Contributor User, Site.com Publisher User, WDC User, Mobile Push Registrations, Data.com User Type, Accessibility Mode (Classic Only), Debug Mode, High-Contrast Palette on Charts, Load Lightning Pages While Scrolling, Send Apex Warning Emails, Salesforce CRM Content User, and Receive Salesforce CRM Content Email Alerts. The user's role is 'CEO', user license is 'Salesforce', and profile is 'System Administrator'. The user is active and has various permissions checked. The bottom of the screen shows the Windows taskbar with the search bar and several application icons.

Users | Salesforce

Search Setup

Setup Home Object Manager

users

Users

Permission Set Groups

Permission Sets

Profiles

Public Groups

Queues

Roles

User Management Settings

Users

Feature Settings

Data.com

Prospector Users

Didn't find what you're looking for?
Try using Global Search.

User Detail

Name: Deva Suriya

Alias: deva

Email: devasuriya10841@gmail.com

Username: deva.suriya@salesforce.com

Nickname: User18801551494533138498

Title:

Company:

Department:

Division:

Address:

Time Zone: (GMT+05:30) India Standard Time (Asia/Kolkata)

Locale: English (India)

Language: English

Delegated Approver:

Manager: Deva Suriya

Receive Approval Request Emails: Only if I am an approver

Federation ID:

App Registration: One-Time Password Authenticator:

App Registration: Salesforce Authenticator:

Security Key (U2F or Webauthn):

Lightning Login:

Role: CEO

User License: Salesforce

Profile: System Administrator

Active: ☒

Marketing User: ☐

Offline User: ☐

Knowledge User: ☐

Flow User: ☐

Service Cloud User: ☐

Site.com Contributor User: ☐

Site.com Publisher User: ☐

WDC User: ☐

Mobile Push Registrations: View

Data.com User Type: i

Accessibility Mode (Classic Only): i

Debug Mode: i

High-Contrast Palette on Charts: i

Load Lightning Pages While Scrolling: ☒

Send Apex Warning Emails: ☐

Salesforce CRM Content User: ☒

Receive Salesforce CRM Content Email Alerts: ☒

Type here to search

ENG IN 11:30 AM 3/30/2023

1. Enter users in the quickfind box and select users.
2. Click new user .
3. Now give the name as you wish but the email must be real email address.
4. For username field follow the instructions
 - Firstname.<yourlastname>@<yourcompany>.com
 - ...or create a username of your choice that should be unique
5. Give the role as CEO, Profile as System Administrator and license as Salesforce.
6. From Setup, enter Users in the Quick Find box and select Users.
7. Select your user account in the list provided. (Click on your name in the All Users list.)
8. Click Edit.
9. Scroll down to Approver Settings. Set your manager as the user you have created recently.
10. Click Save

Milestone 7- Use customization

Activity -1:

Customize Travel Approval Object Page layout

- 1.From the Object Manager, search for the travel approval object and click on page layouts and click edit.
- 2.Drag Section from the top pane to the lower pane directly below the Information section. When dragging over the page, you get a visual indicator of where you can drop the new section.

Developer Portal | Salesforce Dev x

Travel Approval | Salesforce x

+

← → ↺

mvmuthiahgovernmentartsc-2b-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/0112w000003Pufm/PageLayouts/00h2w000001E5KuAAL/view

🔍 📄 ⭐ 🗑️ 👤

☁️

Search Setup

🌟 ⛶ ⚙️ ? 🛎️ 👤

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

Validation Rules

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Fields

Quick Find

Field Name

*

Section

Destination State

Travel Approval #

Blank Space

Last Modified By

Trip End Date

Created By

Out Of State

Trip Start Date

Department

Owner

Actions in this section are currently inherited from the global publisher layout. You can [override the global publisher layout](#) to set a customized list of actions for the publisher on pages that use this layout.

Salesforce Mobile and Lightning Experience Actions

Actions in this section are predefined by Salesforce. You can [override the predefined actions](#) to set a customized list of actions on Lightning Experience and mobile app pages that use this layout. If you customize the actions in the Quick Actions in the Salesforce Classic Publisher section, and have saved the layout, then this section inherits that set of actions by default when you click to override.

Travel Approval Detail

Standard Buttons

Edit Delete Clone Change Owner Change Record Type Printable View Sharing Sharing Hierarchy

Custom Buttons

Trip Info

Information (Header visible on edit only)

Travel Approval #

GEN-2004-001234

Owner

Sample Text

Trip Start Date

10/04/2023

Out Of State

✓

Trip End Date

10/04/2023

Destination State

Sample Text

Department

Sample Text

System Information (Header visible on edit only)

Created By

Sample Text

Last Modified By

Sample Text

Custom Links (Header visible on edit only)

Mobile Cards (Salesforce mobile only)

Drag expanded lookups and mobile-enabled Visualforce pages here to display them as mobile cards.

Related Lists

🪟

Type here to search

🖨️

🌐

📁

📄

📧

🔍

🔍

⬆️

🔊

ENG

10:41

10-04-2023

🗨️

3. Name the section Trip Info, leave the rest of the settings at their default values, then click OK.
4. Drag the Purpose of Trip field from the Information section to the Trip Info section..
5. Drag Trip Start Date and Trip End Date from the top pane into the left-hand column of the Trip Info section.
6. Drag Out-of-State and Destination State from the top pane into the right-hand column of the Trip Info section.
7. Drag the Department field from the left-hand column of the Trip Info section to the right-hand column.
8. Click Save

Milestone 8-Add Business Logic to Travel App

Activity-1:

Create Validation Rule

1. Search for the travel approval object from the object manager and open the object.
2. Click on validation rules and give your rule a name and make sure that the rule is set to active.
3. In the error condition formula enter `Trip_End_Date__c < Trip_Start_Date__c`.
4. For error location select field and pick trip end date as the location for error.

Developer Portal | Salesforce De...Object Manager | Salesforce

mvmtuthiahgovernmentartsc-2b-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/page?address=%2F03d2w000000WEFR

Search Setup

SetupHomeObject Manager

SETUPObject Manager

Travel Approval Validation Rule

Back to Travel Approval

Help for this Page

Validation Rule Detail

EditClone

Rule Name	Travel_Approval_Validation_Rule	Active	✓
Error Condition Formula	Trip_End_Date__c< Trip_Start_Date__c	Error Location	Trip End Date
Error Message	Enter The Validation Trip		
Description			
Created By	ASLIN ARUNA, 10/04/2023, 11:36 am	Modified By	ASLIN ARUNA, 10/04/2023, 11:36 am

EditClone

Type here to search

ENG11:3610-04-2023

Activity-2:

Create RollUp Summary Fields

1. From the Travel Approval object, select Fields & Relationships.
2. Click New.
3. Select the Roll-Up Summary data type.
4. Click Next.
5. Enter the following values for the field details
 - o Field Label: Total Expenses
 - o Field Name: Total_Expenses (this automatically gets set when you tab out of the Field Label field)
6. Click Next.
7. Configure the roll-up calculation.
 - o Summarized Object: Expense Items
 - o Roll-Up Type: SUM
 - o Field to Aggregate: Amount
 - o Filter Criteria: All records should be included in the calculation

8. Click Next, Next, Save

Activity-3:

Create Formula Fields

1. First, we need to upload a zip file to your Salesforce environment that contains all the images we use. You should have a file titled StatusImages.zip .
2. Click the Home tab to navigate back to the main setup page.
3. Click Custom Code | Static Resources (or enter Static in the Quick Find to filter down the options).
4. Click New.
5. Enter the following values for your static resource

Parameter	Value
Name	StatusImages
File	StatusImages.zip
Cache Control	Private

6. Now select the travel approval object.
7. Select Fields & Relationships.
8. Click New
9. Select Formula data type.

10. Click Next.

11. Enter the following values:

Field Label: Status Indicator

Field Name: Status_Indicator (This automatically gets sent when you tab out of the Field Label field)

Formula Return Type: Text

12. Click Next.

13. Copy and paste the following formula into the formula editor.

```
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)))
```

14. Click Next, Next, Save.

Developer Portal | Salesforce Dev

Static Resources | Salesforce

Static Resources | Salesforce

mvmuthiahgovernmentartsc-2b-dev-ed.develop.lightning.force.com/lightning/setup/StaticResources/page?address=%2F0812w000002D3u1%3FsfcdclFrameOrigin...

Search Setup

Setup

Home

Object Manager

sta

Service Setup Assistant

Multi-Factor Authentication Assistant

Lightning Experience Transition Assistant

Data

- State and Country/Territory Picklists

Apps

- Packaging
 - Installed Packages

Feature Settings

- Analytics
 - Apps
 - App Install History
 - Auto-Installed Apps

Custom Code

- Static Resources

Performance

- Performance Testing

Static Resources

Static Resource StatusImages

Help for this Page

Static Resource Detail

EditDeleteWhere is this used?

Name	StatusImages
Namespace Prefix	
Description	
MIME Type	application/x-zip-compressed
Cache Control	Private
Size	39,130 bytes
	View file
Created By	ASLIN ARUNA, 10/04/2023, 11:20 am
Last Modified By	ASLIN ARUNA, 10/04/2023, 11:20 am

EditDeleteWhere is this used?

Type here to search

11:20 10-04-2023

Milestone 10

Activity

Add Report

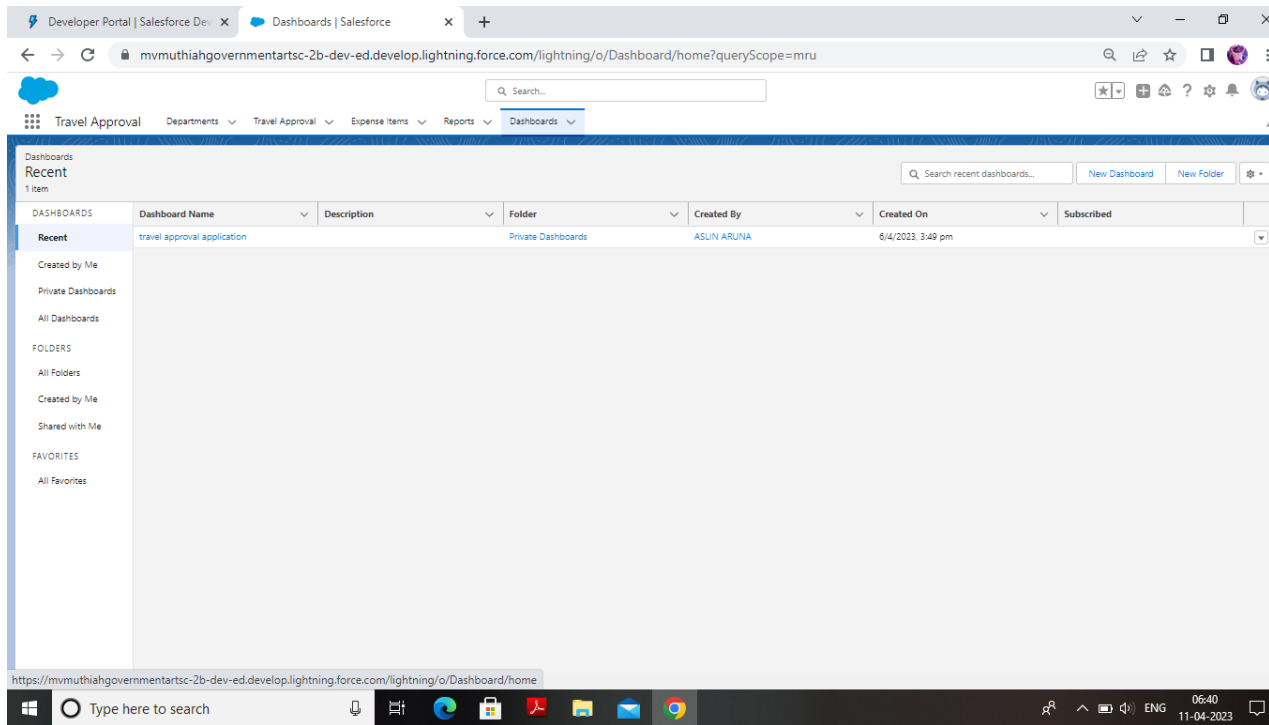
To create a report:

Go to the app → click on the reports tab

Click New Report

Select report type from category or from report type panel or from search panel → click on start report.

Customize your report, then save or run it.

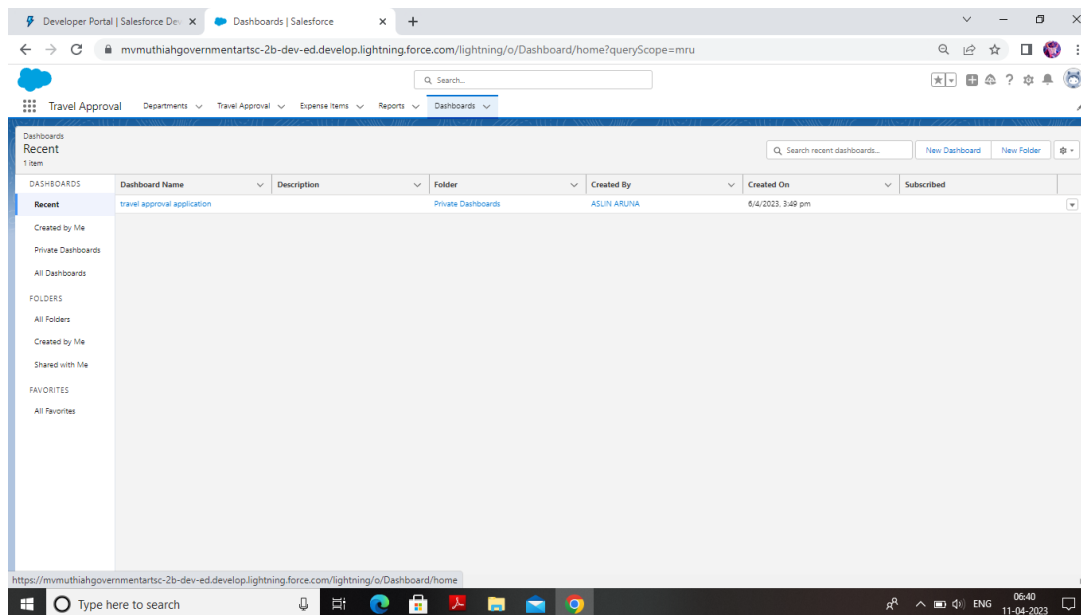


Milestone 11- Dashboards

Activity:

Create Travel Approvals Dashboard

1. Click on Dashboards tab from the travel approval application, click on new dashboard
2. Give your dashboard a name and click on +component, select the report which you created.
3. For the data visualization select any of the chart, table etc as your wish.



CONCULSION

Here we've presented the look of a travel Approval Application on the Salesforce Platform which might provide the users with the specified travel assistant and also for the upper authorities to require care of the expenses at any point of your time through multilevel approvals of the travel request. Here the user can upload the bills to the cloud any time which is more efficient and productive. Travel Approval Application allows us to arrange and monitor travel plans and expense reports for our organization using Salesforce Platform.

Thank You

