



WORKFORCE ADMINISTRATION SOLUTION



NAAN MUDHALVAN PROJECT REPORT

Submitted by

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in partial fulfilment for the award of the degree of
BACHELOR OF ENGINEERING
in
COMPUTER SCIENCE AND
ENGINEERING

AVS ENGINEERING COLLEGE,
SALEM – 636003.

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BONAFIDE CERTIFICATE

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ACKNOWLEDGEMENT

We would like to express our gratitude and appreciation to all those who gave us the possibility to complete this report. We would like to acknowledge with much appreciation to our honorable Chairman, **Shri.K.KAILASAM**. Secretary, **Shri. K.RAJAVINAYAKAM, MBA.** and also, to our Correspondent, **Shri. K.SENTHIL KUMAR, B.Tech** for providing all necessary facilities for the successful completion of the project.

We have immense pleasure in expressing our gratitude to our beloved Principal, **Dr. A. SRINIVASAN, M.E, Ph.D.**, for allowing us to have extensive use of our college facilities to do this project. It gives us a great sense of pleasure in expressing our gratefulness to our beloved Vice Principal's, **Dr. R. VISWANATHAN, M.E., Ph.D.**, and **Dr. D.R. JOSHUA, M.E., Ph.D.**,for their professional guidance in scheduling the project work to complete ontime.

We express our heartiest gratitude to **Dr. M. VILASINI M.E, Ph.D.**, Dean R&D and Head of the Department **Prof. V. MEENA, M.E.**, Computer Science and Engineering, for her guidance and encouragement throughout the Project Period. Also, we express our sincere and heartiest gratitude to class advisor and project coordinator **Prof. S. PRIYADHARSHINI, M.E., Assistunt Professor and guide Prof. S.. AROKIYANATHAN, M.E.**, Assistant Professor for their constant helps and creative ideas over the period of project work.

We specially thank all our Teaching and Non-Teaching Staff Members andLab Technicians of the Department of Computer Science and Engineering fortheir consistent encouragement to do the project work with full interest and zeal. We pay our profound gratitude to God for his invisible vigilance and would like to thank our Parents for giving us support, encouragement and guidance throughout the course of our work.

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LIST OF ABBREVIATION

CRM	Customer Relationship Management
ESP	Email Service Provider
UI	User Interface
UX	User Experience
OWD	Org - Wide Default
CTA	Call To Action
CSV	Comma - Separated Values
SLA	Service Level Agreement
API	Application Programming Interface
SaaS	Software as a Service
PaaS	Platform as a Service

CHAPTER-1

PROJECT SPECIFICATION

1.1 Project Goal

The project goal for a Workforce Administration Solution could be to efficiently manage and optimize workforce resources, streamline HR processes, and ensure compliance with labor laws and regulations. This may include tasks such as employee scheduling, time and attendance tracking, payroll processing, and HR data management, all aimed at improving operational efficiency and employee satisfaction while reducing administrative overhead. The specific goals would depend on the organization's needs and challenges.

It typically involves optimizing workforce management processes, improving efficiency, and ensuring compliance with labor regulations. This can include tasks such as scheduling, time tracking, leave management, and payroll processing. The aim is to streamline these processes, enhance employee productivity, reduce administrative overhead, and ultimately contribute to the overall success of the organization.

This could be to streamline HR processes, optimize workforce management, and enhance employee experience. This might involve developing a comprehensive system for managing employee data, attendance, payroll, and other HR functions efficiently, ensuring compliance with regulations, and providing a user-friendly interface for both employees and HR professionals. Ultimately, the project goal is to create an efficient, compliant, and user-friendly system for managing the workforce and HR processes within the organization.

1.2 Project Scope

The goal for a Workforce Administration solution typically includes:

1. Streamlining HR Processes: Improve efficiency by automating and simplifying various HR tasks like employee onboarding, payroll processing, and leave management.
2. Compliance Management: Ensure adherence to labor laws, regulations, and company policies by integrating compliance features into the solution.
3. Data Accuracy: Enhance data accuracy and reduce errors in employee records and payroll processing.
4. Employee Self-Service: Empower employees to manage their personal information, request time off, and access relevant HR resources.
5. Cost Reduction: Reduce administrative costs by automating routine HR tasks and optimizing workforce management.
6. Reporting and Analytics: Provide insightful data and reporting capabilities to support decision-making and strategic workforce planning.
7. Scalability: Ensure the solution can accommodate the company's growing workforce and changing needs.
8. User-Friendly Interface: Develop an intuitive user interface for both HR administrators and employees.
9. Integration: Seamlessly integrate with other systems like time and attendance, accounting, and ERP software.
10. Mobile Accessibility: Enable access to the solution from mobile devices for remote and on-the-go workforce management.

1.3 Problem Statement Definition

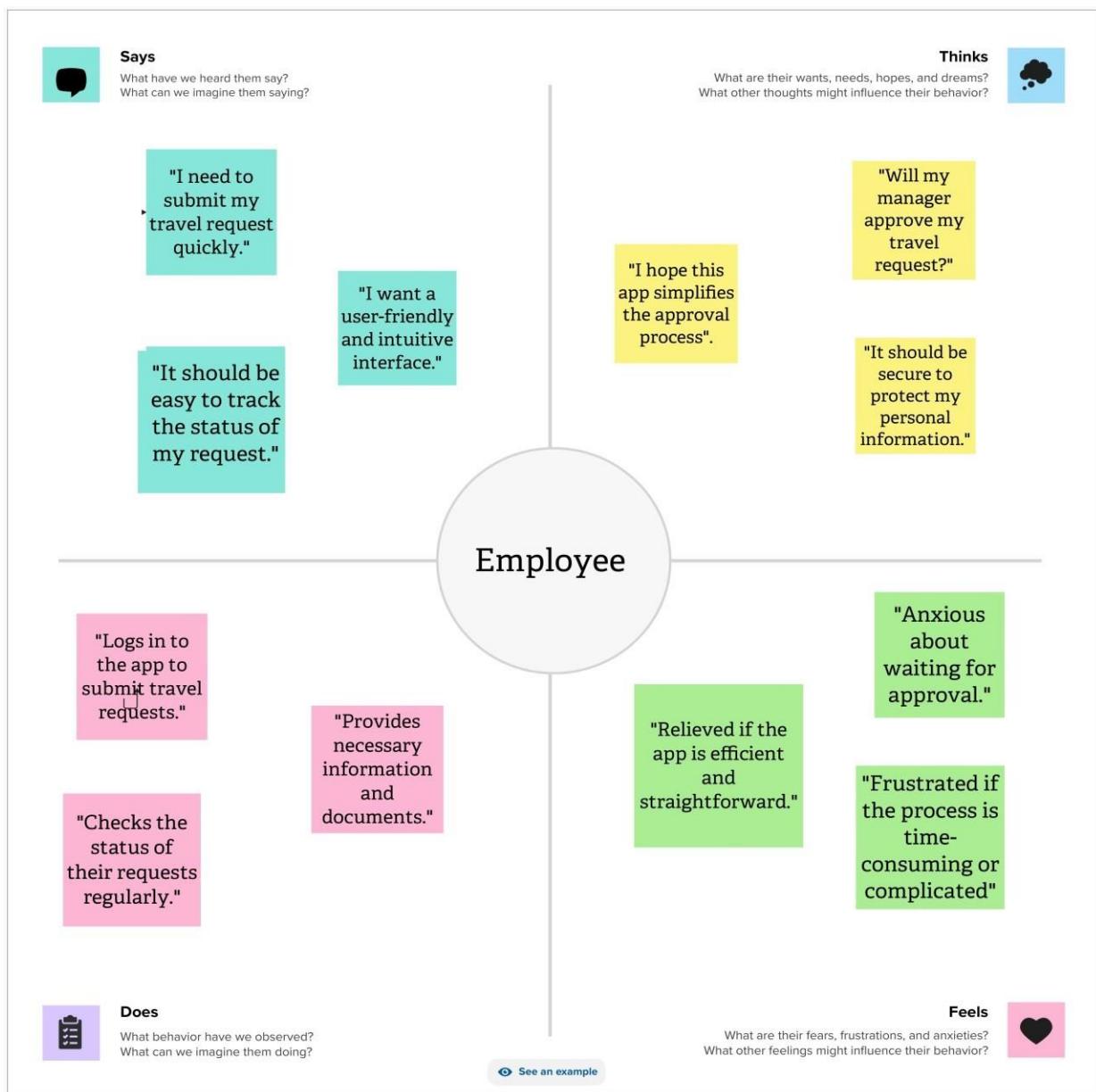


Problem Statement (PS)	I am (Employee)	I'm trying to	But	Because	Which makes me feel
PS	Employee	I am trying to streamline and simplify the process of submitting, tracking, and approving travel requests to ensure a smoother travel experience	But the current process is manual, time-consuming, and lacks transparency, resulting in delays and confusion.	Because this inefficiency in the travel approval process creates frustration, adds unnecessary administrative work, and can lead to financial discrepancies	Which makes me feel frustrated, anxious about travel plans, and often uncertain about the status of my request, ultimately affecting my overall job satisfaction and productivity

1.4 Empathy Map Canvas

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behavior and attitudes.

It is a useful tool to help teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



1.5 Ideation & Brainstorming

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Step-1: Team Gathering, Collaboration and Select the Problem Statement:

Template

Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

10 minutes to prepare
1 hour to collaborate
3-4 people recommended

1 Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

Project aim
The project aim is to provide real-time knowledge for all the students who have basic knowledge of Salesforce and want to learn more about it. This project will also help to those students who are in cross-technology and wanted to switch to Salesforce with the help of this project they will gain knowledge and can include into their resume as well.

2 Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

Team gathering
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

Set the goal
Think about the problem you'll be focusing on solving in the brainstorming session.

Learn how to use the facilitation tools
Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#)

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1 of 7

Step-2: Brainstorm, Idea Listing and Grouping:

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes



TIP
You can select a sticky note and tap the pencil [edit] icon to start drawing!

Person 1	User-Friendly Dashboard: Create an intuitive dashboard for employees to submit travel requests and track their status.	Manager Approval Workflow: Implement a workflow that allows managers to review and approve travel requests easily.
Person 3	Notification System: Implement a notification system to keep employees informed about the status of their travel requests.	Notification System: Implement a notification system to keep employees informed about the status of their travel requests.
Person 2	Travel Policy Integration: Include the company's travel policy within the app, ensuring employees are aware of guidelines and restrictions.	Expense Management: Allow employees to submit expense reports related to their trips and attach receipts.
Person 4	Real-Time Currency Conversion: Provide a currency conversion feature to help employees manage expenses in different currencies.	Analytics and Reporting: Generate reports for corporate administrators to analyze travel patterns and expenses.

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

⌚ 20 minutes

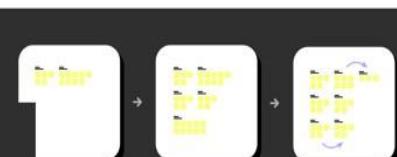


TIP
Add categories tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your board.

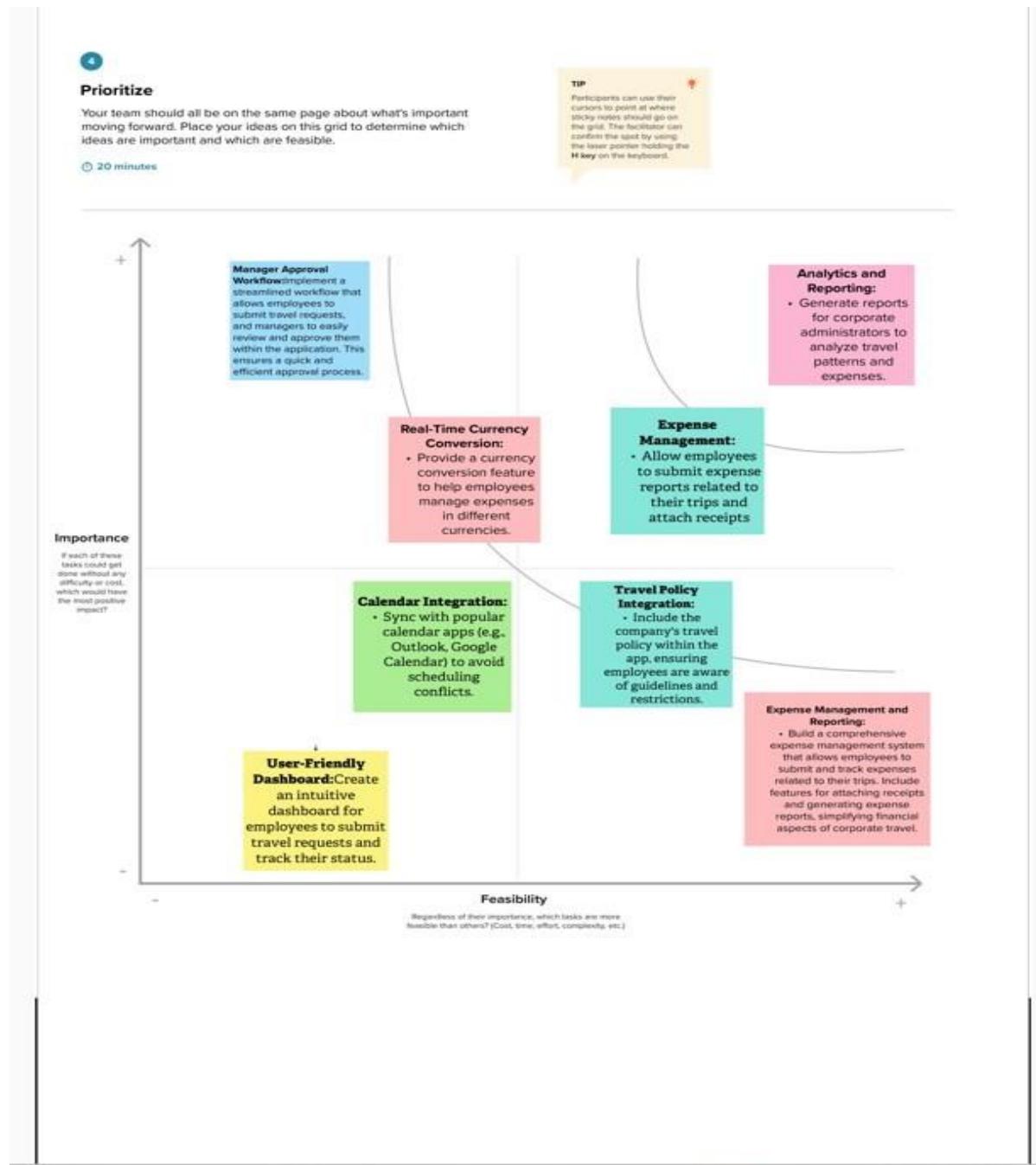
Manager Approval Workflow: Implement a streamlined workflow that allows employees to submit travel requests, and managers to easily review and approve them within the application. This ensures a quick and efficient approval process.

Expense Management and Reporting:

- Build a comprehensive expense management system that allows employees to submit and track expenses related to their trips. Include features for attaching receipts and generating expense reports, simplifying financial aspects of corporate travel.



Step-3: Idea Prioritization:



1.6 Proposed Solution

S. No	Parameter	Description
1.	Problem Statement (Problem to be solved)	<p>Corporates often grapple with inefficient and manual travel approval processes that involve paperwork and a lack of transparency. These outdated methods lead to delays, increased administrative work, and potential compliance issues. The process is a source of stress for employees who require timely approvals to plan their business trips effectively, and it leaves them dissatisfied with the process. Managers, on the other hand, struggle to review and manage a high volume of travel requests while ensuring compliance. The absence of transparency leads to bottlenecks and a lack of visibility, leaving them overwhelmed and frustrated.</p>
2.	Idea / Solution description	<p>Our proposed solution is to develop an Employee Travel Approval Application within Salesforce, offering automation and centralization. The application will provide a user-friendly and automated system that allows employees to submit travel requests seamlessly. Managers will be able to review and approve them efficiently, while the system offers real-time tracking of request statuses. It will also include integration with external systems for expense management, robust security measures, mobile accessibility and analytics tools for data-driven decision-making. The benefits include reduced administrative burdens, improved communication, cost control, and better compliance with corporate policies and regulations.</p>

3.	Novelty / Uniqueness	<p>What sets our solution apart is the innovative use of Salesforce, a highly customizable and powerful platform, to streamline corporate travel management. The automation of approval workflows and integration with external systems will significantly reduce manual work and errors. The mobile app component will provide users with the flexibility and convenience of on-the-go access. Furthermore, the incorporation of robust reporting and analytics tools will enable data-driven decision-making and offer insights into travel expenses, setting our solution apart from conventional methods.</p>
4.	Social Impact / Customer Satisfaction	<p>Our application will have a substantial social impact by enhancing the user experience in corporate travel management. Employees and managers will benefit from a smoother, more transparent, and efficient travel approval process, reducing frustration and uncertainty. The streamlined process will free up time and resources for more strategic tasks, thereby improving overall workforce productivity. Data-driven decision-making will lead to better cost management, making it easier to control expenses and ensuring financial compliance. The application will also guarantee compliance with corporate policies and regulatory requirements, reducing risks and ensuring data security. Lastly, by optimizing travel planning, our solution can contribute to a more sustainable approach to business travel, aligning with corporate sustainability goals.</p>

1.7 Functional & Technical Requirements

1.7.1 Functional Requirements

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Management	<p>User Registration: Allow employees to register and log into the system.</p> <p>User Roles: Define roles (employees, managers, travel administrators) with different permissions.</p> <p>User Profiles: Capture and manage user profiles, including contact details.</p>
FR-2	Travel Request Submission	<p>Travel Request Form: Provide an intuitive form for employees to submit travel requests.</p> <p>Expense Entry: Allow users to enter estimated expenses, including flights, accommodation, meals, and incidentals.</p> <p>Travel Dates: Specify departure and return dates, including the option for flexible schedules.</p> <p>Attachments: Enable the attachment of supporting documents, such as itineraries or conference detail</p>
FR-3	Approval workflow	<p>Workflow Automation: Implement an automated approval process with defined workflows.</p> <p>Manager Assignment: Automatically route requests to the appropriate manager based on criteria like department or project.</p> <p>Notifications: Send notifications to managers and employees at various stages of the approval process.</p> <p>Delegation: Allow managers to delegate their approval authority when they are unavailable.</p>
FR-4	Approval Management	<p>Manager Dashboard: Provide managers with a dashboard to view and manage pending travel requests.</p> <p>Request Review: Allow managers to review travel details, expense estimates, and supporting documents.</p> <p>Approval/Rejection: Enable managers to approve or reject requests with comments.</p> <p>Escalation: Implement escalation processes for unattended requests or those exceeding certain thresholds</p>

FR-5	Expense Tracking	Expense Tracking: Record actual expenses incurred during the trip. Receipt Upload: Allow users to upload expense receipts for verification. Expense Categories: Categorize expenses (e.g., transportation, lodging, meals) for reporting. Expense Reconciliation: Compare estimated and actual expenses for cost control.
FR-6	Reporting and Analytics	Reporting Tools: Develop custom reports and dashboards to monitor travel request status and expenses. Analytics: Implement data analytics for insights into travel patterns, expenses, and approval efficiency. Export: Allow users to export reports for offline use or sharing

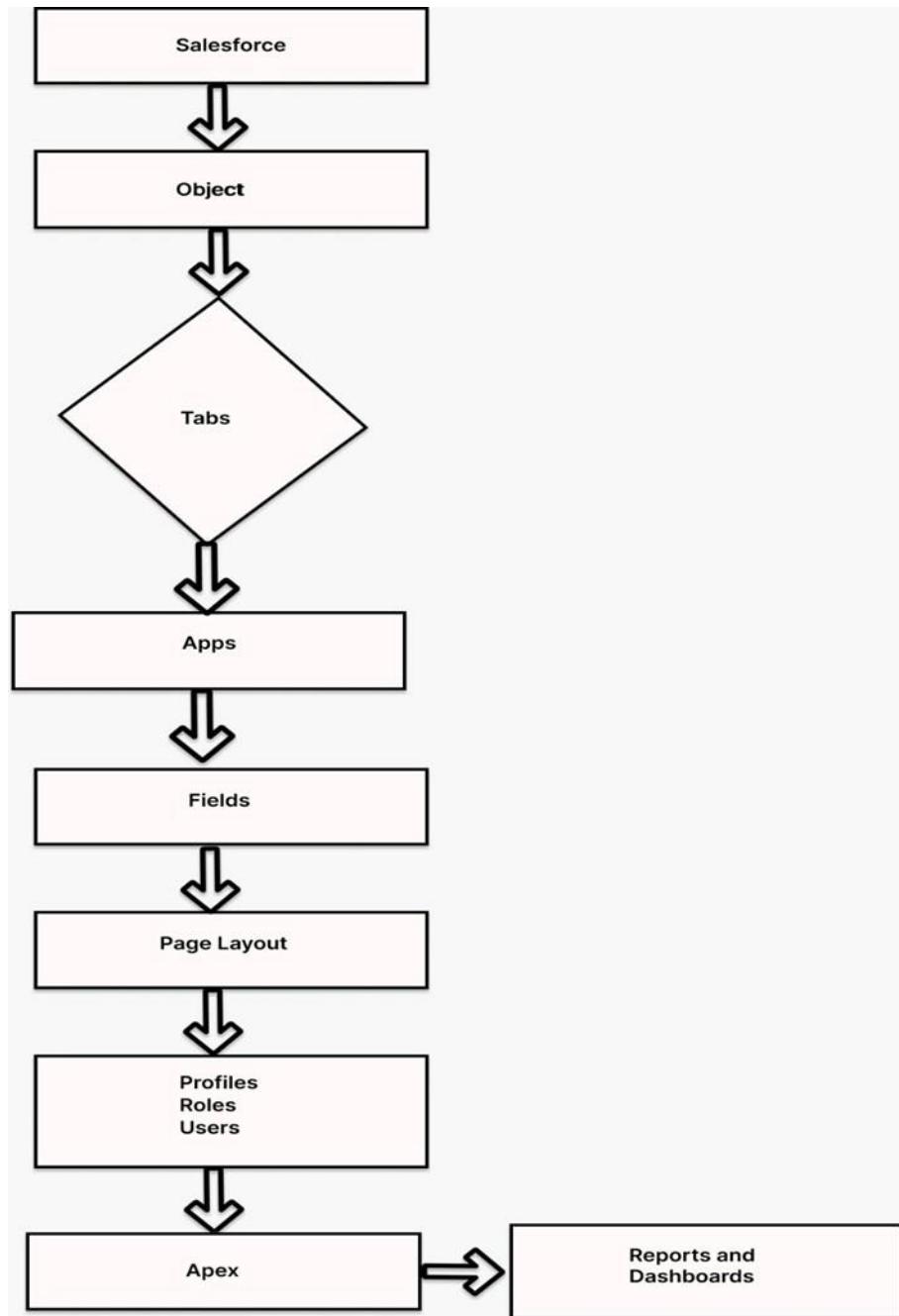
1.7.2 Technical Requirements

TR No.	Technical Requirement	Description
TR-1	Salesforce Environment	Utilize Salesforce's Enterprise or Unlimited edition to ensure scalability and access to advanced features.
TR-2	Development language	Develop using Salesforce's proprietary programming language, Apex, for server-side logic.
TR-3	Security	<ul style="list-style-type: none"> Implement role-based access control (RBAC) to control who can access and modify data. Encrypt sensitive data both in transit and at rest. Utilize Salesforce Shield for enhanced security, including event monitoring and field-level encryption.
TR-4	Integration	<ul style="list-style-type: none"> Use REST and SOAP APIs for integration with external systems, such as finance and expense management tools. Implement Single Sign-On (SSO) solutions for seamless and secure access.
TR-5	Customization	Allow administrators to customize and configure the application, including approval workflows, fields, and user profiles.
TR-6	Mobile Accessibility	<ul style="list-style-type: none"> Ensure that the application is accessible via the Salesforce mobile app for on-the-go request submission and tracking. Develop a custom mobile app using Salesforce Mobile SDK for more tailored mobile functionality.

1.8 Project Road Map

1.8.1 Data Flow Diagram

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



1.8.2 Technical Architecture

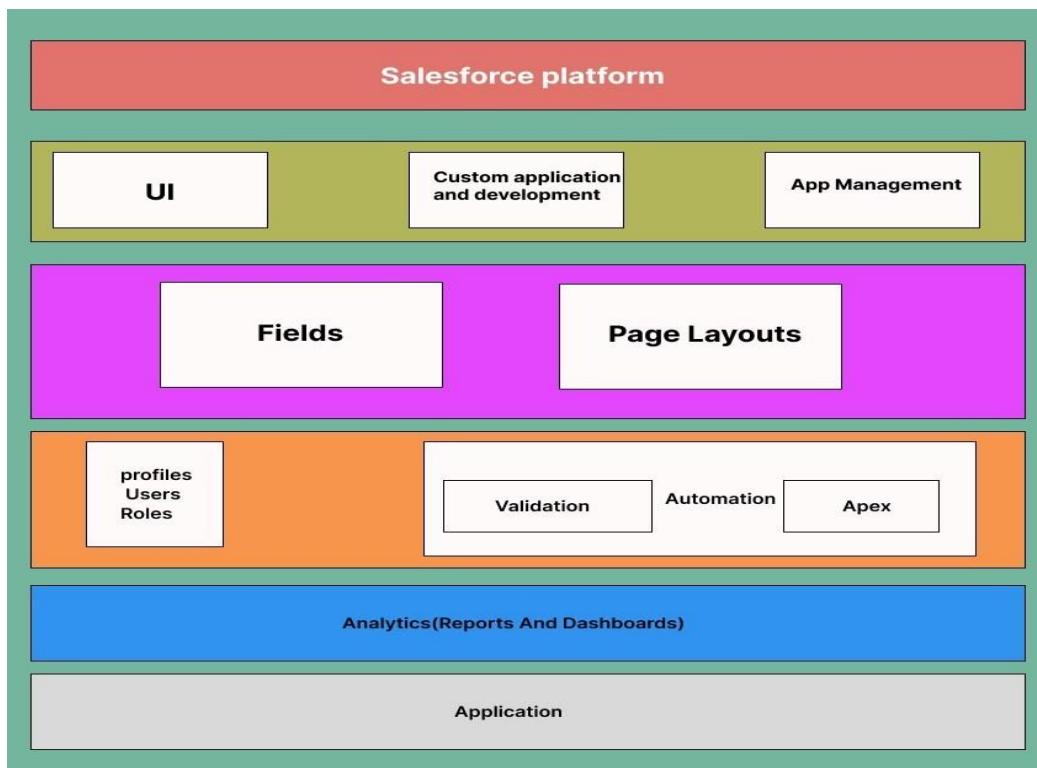


TABLE-1: Component and Technologies:

S.No	Component	Description	Technology
1.	User Interface	<p>Lightning Components: Use Salesforce Lightning components to design the user interface for employees, managers, and administrators.</p> <p>Custom Pages: Create custom Visualforce pages for more tailored and complex UI elements</p>	Salesforce
2.	Data Model	<p>Custom Objects: Define custom objects in Salesforce to represent entities like travel requests, expenses, and approvals.</p> <p>Master-Detail and Lookup Relationships: Establish relationships between objects to maintain data integrity.</p> <p>Custom Fields: Create custom fields to capture specific information, such as travel dates, expenses, and approval status.</p>	Salesforce

3.	Workflow Automation	Approval Processes: Implement Salesforce Approval Processes to automate and streamline the travel request approval workflow. Process Builder and Flows: Use Process Builder and Flows to automate routine tasks and send notifications.	Salesforce
4.	Reporting and Analytics	Custom Reports: Create custom reports to track travel request status, expenses, and other relevant metrics.	Salesforce
5.	Security	Role-Based Access Control (RBAC): Configure RBAC to control who can access and modify data. Data Encryption: Encrypt sensitive data both in transit and at rest. Audit Trails: Maintain audit trails to log user activities for security and compliance purposes.	Salesforce
6.	Salesforce Development	Apex: Use Salesforce's proprietary programming language, Apex, for server-side logic and data manipulation. Visualforce: Develop custom user interfaces with Visualforce pages and components. Lightning Web Components: Create modern, component-based UIs using Lightning Web Components for a more responsive and dynamic user experience	Salesforce

Table-2: Application Characteristics:

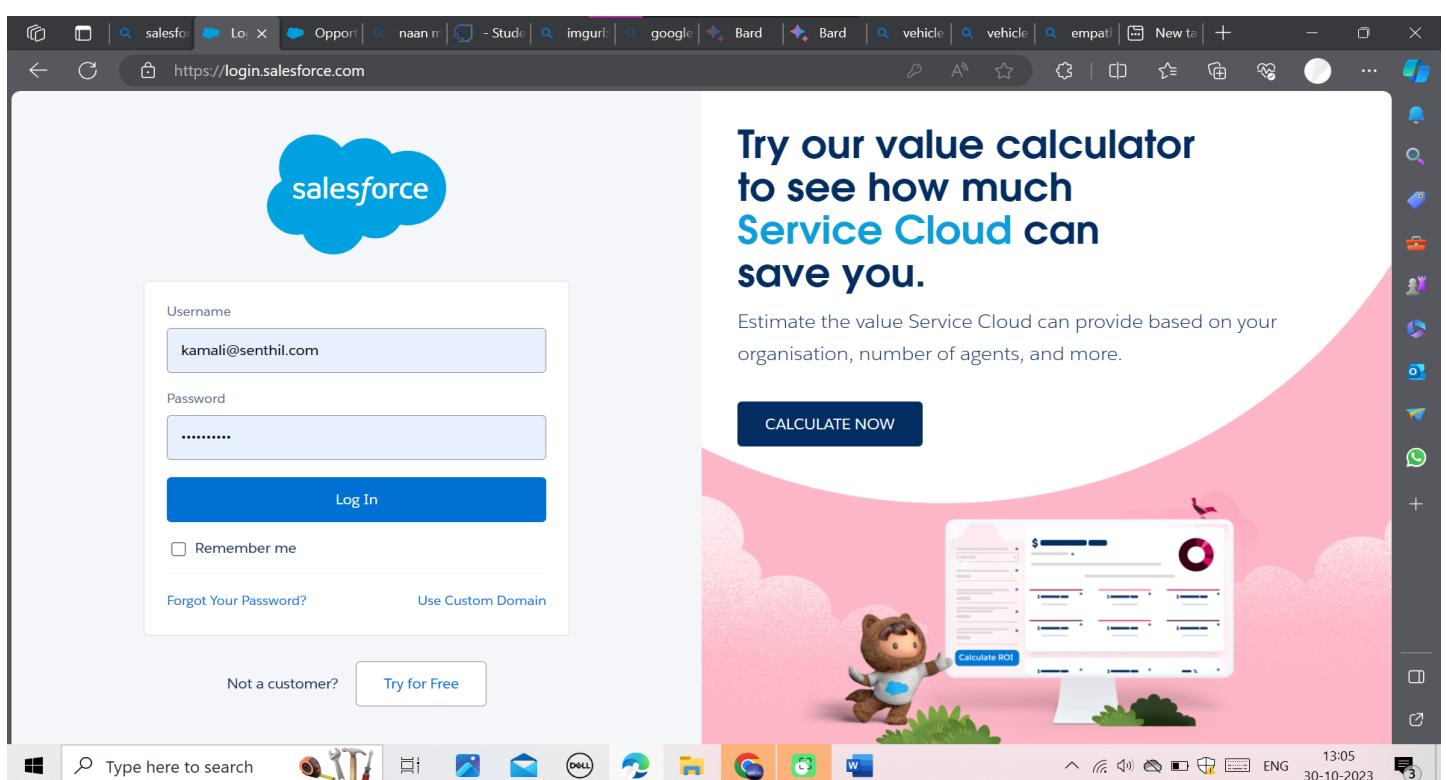
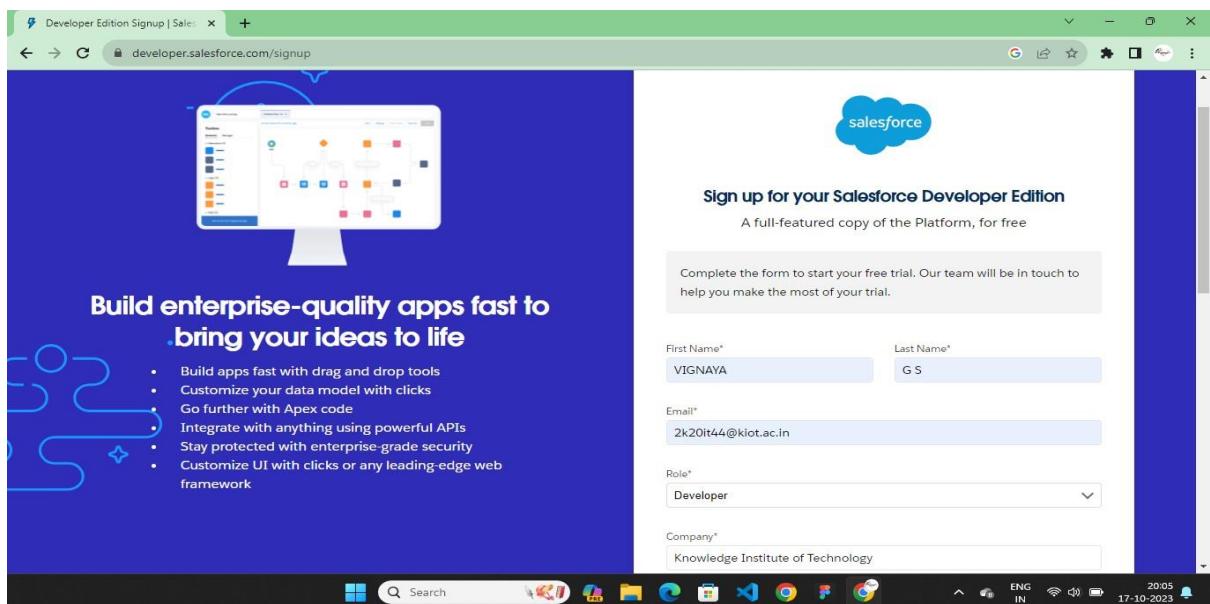
S. No	Characteristics	Description	Technology
1.	Responsive Design	Implement responsive design to adapt to various screen sizes, ensuring a consistent and visually pleasing user experience.	salesforce
2.	Accessibility	Ensure that the application is accessible via multiple devices and browsers, catering to users on desktops, tablets, and mobile devices. This accessibility is crucial for users who need to make or approve travel requests while on the go.	salesforce
3.	User-friendly	The application should have an intuitive and user-friendly interface to make it easy for employees, managers, and administrators to navigate and use the system without extensive training.	Salesforce
4.	Scalability	The application should be able to scale with the growing number of users and data, accommodating increasing demands without significant performance degradation.	salesforce
5.	Performance	Ensure the application's performance meets or exceeds user expectations, with rapid response times for actions such as submitting requests or generating reports.	salesforce
6.	Reporting and Analytics	Enable users to generate custom reports and access analytics tools to gain insights into travel patterns, expenses, and approval efficiency.	salesforce

CHAPTER-2

PREPARATION DATA MODELING

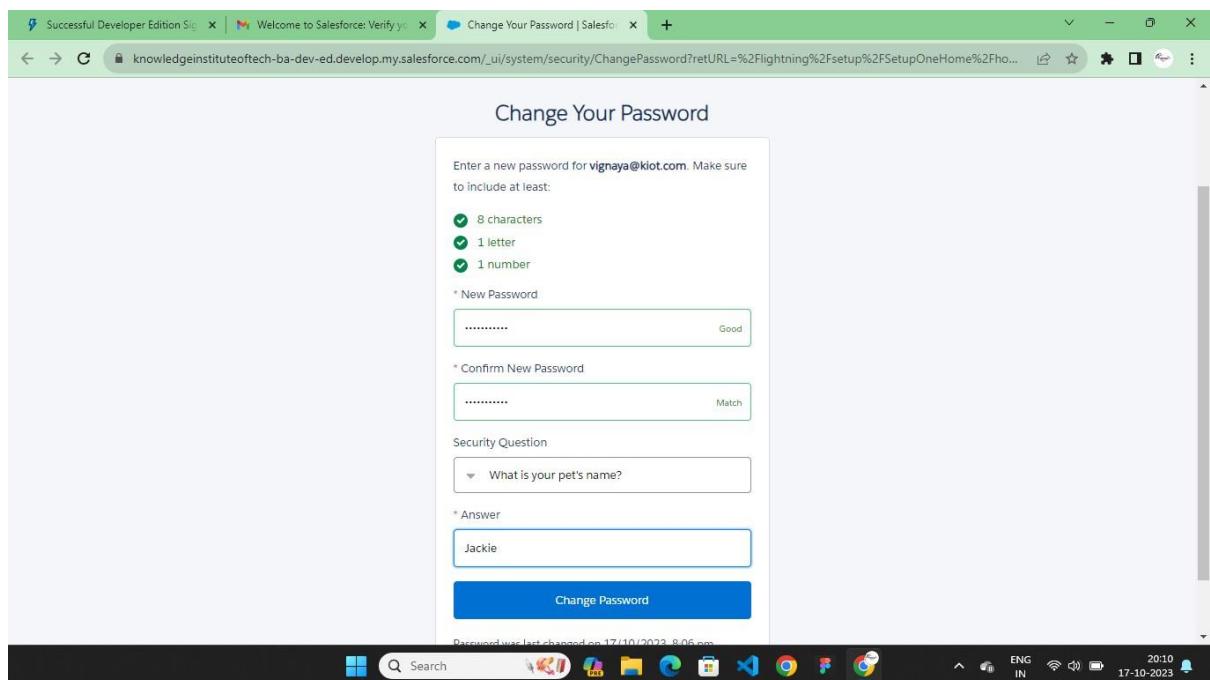
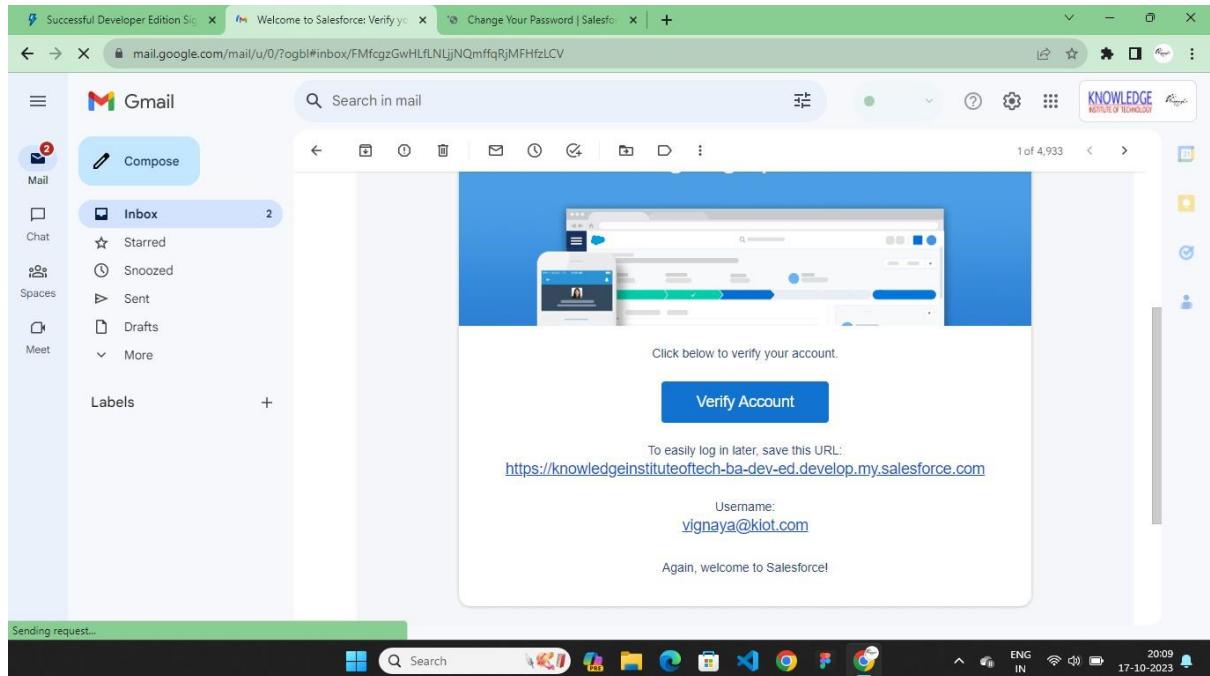
2.1 Salesforce Developer Org

In Salesforce, a Developer Sign Up or Developer Edition is a special type of Salesforce environment that is primarily used for development, testing, and learning purposes.



Account Activation

Activation tracks information about devices from which users have verified their identity.



2.2 Custom Object Creation & Tabs

Custom Object Creation

Objects are containers for your information, but they also give you special functionality.

Custom objects are created to store information that's specific to your company or industry.

Custom Objects in Travel Approval App:

Label	Type	Description	Last Modified	Deployed
Expense	Standard Object			
Department	Standard Object			
Employee Detail	Standard Object			
PaymentMethod	Standard Object			

Fields in Travel Approval Object

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Department	Department__c	Lookup(Department)		
Destination State	Destination_State__c	Text(2)		
Employee Name	Employee_Name__c	Lookup(Employee Detail)		
Last Modified By	LastModifiedById	Lookup(User)		
Out Of State	Out_Of_State__c	Checkbox		
Owner	OwnerId	Lookup(User,Group)		
Purpose of Trip	Purpose_of_Trip__c	Text Area(255)		
Status	Status__c	Picklist		

Build A Employee Travel Approval Application For Corporates

The screenshot shows the Salesforce Object Manager interface for the 'Travel Approval' object. The left sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, etc. The main area displays a table titled 'Fields & Relationships' with 14 items. The columns show Field Label, Field Name, Data Type, and Controlling Field. Key fields include Out Of State, Owner, Purpose of Trip, Status, Status Indicator, Total Expenses, Travel Approval, Trip End Date, and Trip Start Date.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Out Of State	Out_Of_State__c	Checkbox		
Owner	OwnerId	Lookup(User,Group)		✓
Purpose of Trip	Purpose_of_Trip__c	Text Area(255)		
Status	Status__c	Picklist		
Status Indicator	Status_Indicator__c	Formula (Text)		
Total Expenses	Total_Expenses__c	Roll-Up Summary (SUM Expense Items)		
Travel Approval	Name	Auto Number		✓
Trip End Date	Trip_End_Date__c	Date		
Trip Start Date	Trip_Start_Date__c	Date		

Fields in Department Object

The screenshot shows the Salesforce Object Manager interface for the 'Department' object. The left sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, etc. The main area displays a table titled 'Fields & Relationships' with 8 items. The columns show Field Label, Field Name, Data Type, Controlling Field, and Indexed status. Key fields include Created By, Department Code, Department Name, District, Last Modified By, Owner, School website, and State.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Department Code	Department_Code__c	Text(6)		
Department Name	Name	Text(80)		✓
District	District__c	Text(40)		
Last Modified By	LastModifiedBy	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
School website	Schoolwebsite__c	URL(255)		
State	State__c	Text(40)		

Fields in Employee Detail Object

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Date of Birth	Date_of_Birth__c	Date		
Department	Department_c	Lookup(Department)		
Employee Id	Employee_Id__c	Text(12)		
Employee Name	Name	Text(80)		
Gender	Gender__c	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		

Fields in Expense Object

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Employee	Employee__c	Lookup(Employee Detail)		
Employee Detail	Employee_Detail__c	Lookup(Employee Detail)		
Expense	Name	Auto Number		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		

Fields in Expense Items Object

The screenshot shows the Salesforce Object Manager interface for the 'Expense Items' object. The left sidebar lists various setup options like Page Layouts, Lightning Record Pages, and Field Sets. The main area displays a table titled 'Fields & Relationships' with the following data:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount_c	Currency(16, 2)		
Created By	CreatedById	Lookup(User)		
Expense Items Name	Name	Text(80)		
Expense Type	Expense_Type__c	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		
Travel Approval	Travel_Approval__c	Master-Detail[Travel Approval]		

Tabs

Salesforce Tabs are like the menu options in a software application. They allow you to access specific functions, objects, or data.

The screenshot shows the 'Custom Tabs' page in the Salesforce Setup. The left sidebar has a 'User Interface' section with 'Tabs' selected. The main area shows a table for 'Custom Object Tabs' with the following data:

Action	Label	Tab Style	Description
Edit Del	Departments	Wrench	
Edit Del	Employee Details	Wrench	
Edit Del	Expense Items	Wrench	
Edit Del	Expenses	Wrench	
Edit Del	Travel Approvals	Wrench	

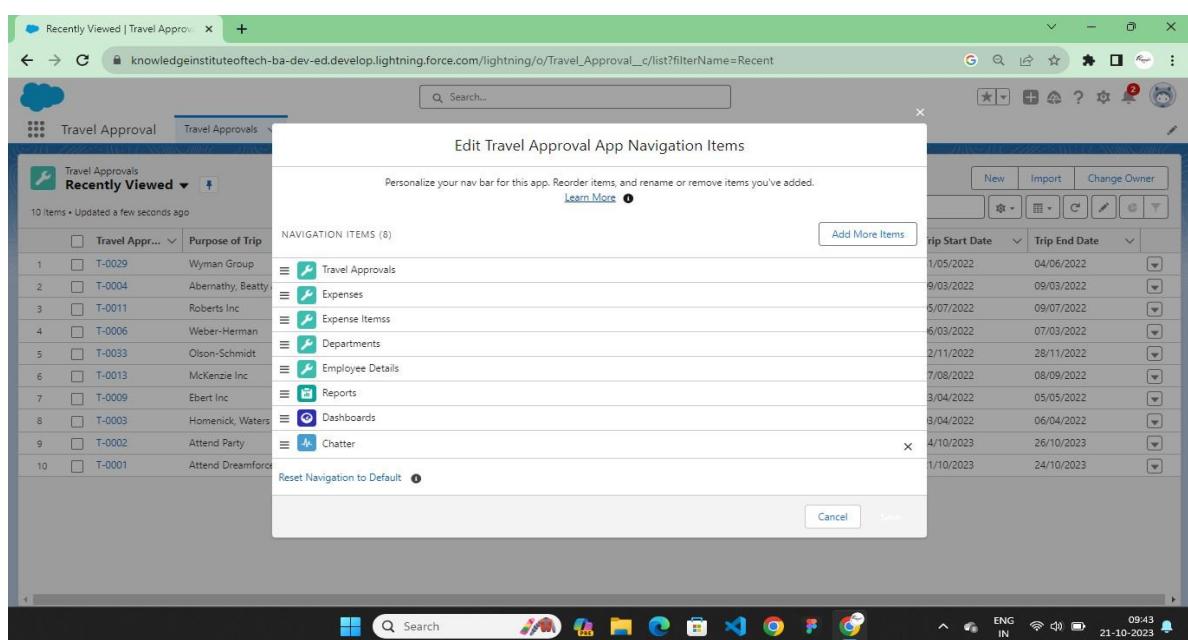
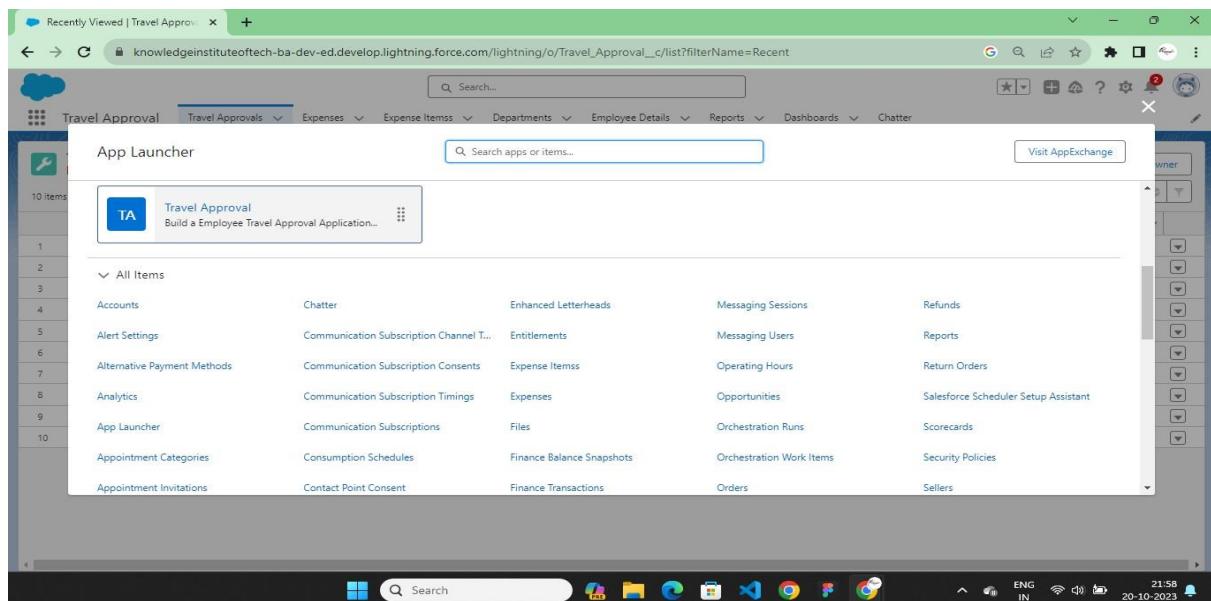
Below this are sections for 'Web Tabs' (No Web Tabs have been defined) and 'Visualforce Tabs' (New | What Is This?).

2.3 Lightning App

The Lightning App Builder is a point-and-click tool that makes it easy to create custom pages for the Salesforce mobile app and Lightning Experience, giving your users what they need all in one place.

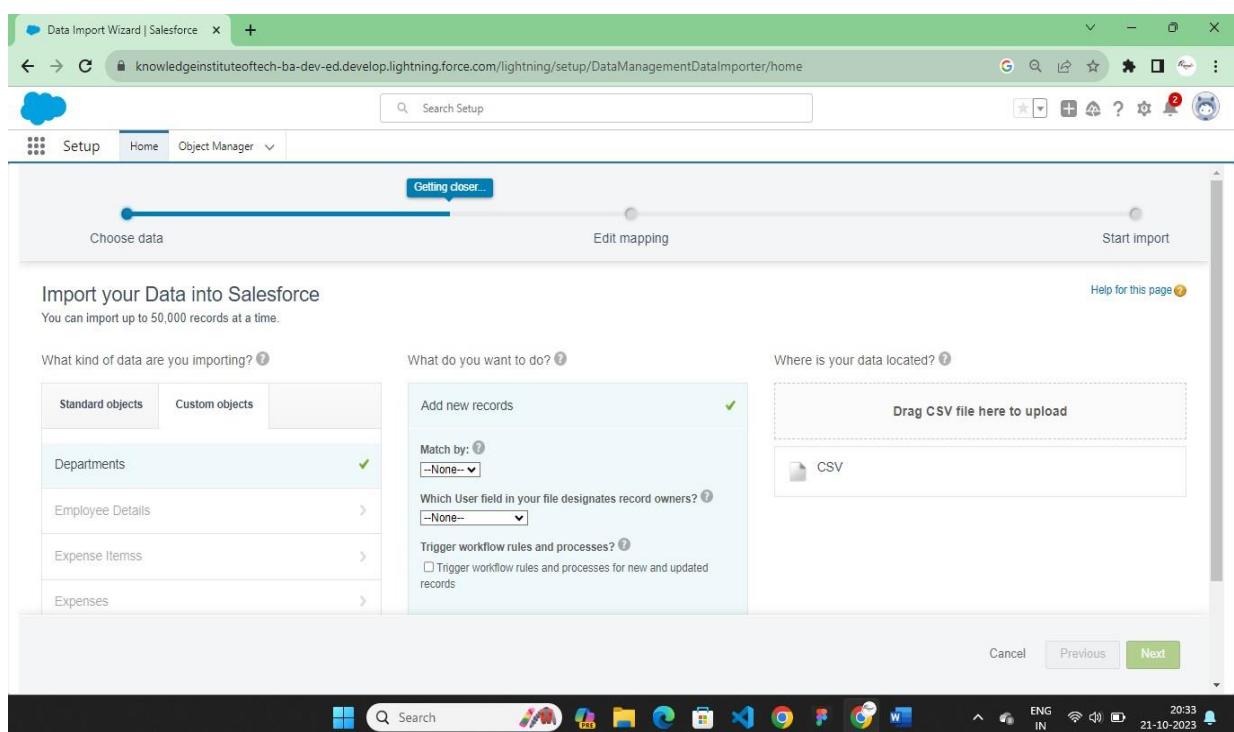
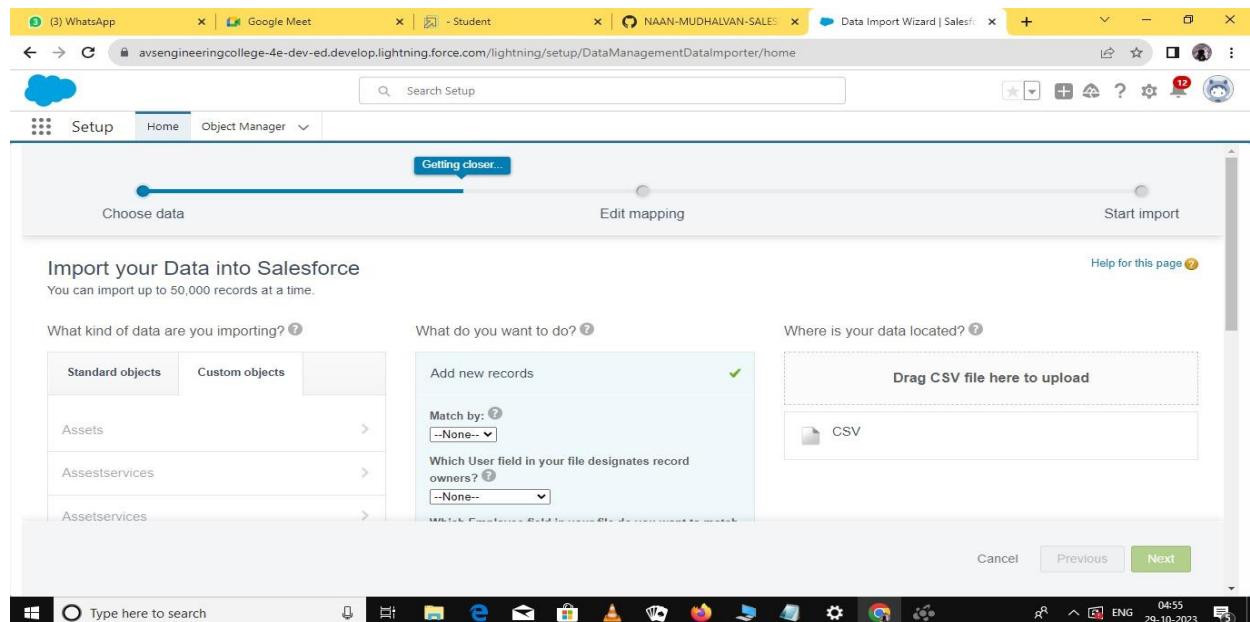
Create a Travel Approval Lightning App

- Build a Lightning app, add tabs, and customize page layouts.
- Create custom objects and fields for the app.
- Define relationships between objects.
- Import data and test the app.



Data Import

The Data Import Wizard is one of various tools available to Salesforce users for importing data. The tool is best used when importing data into the Account, Contact, Lead, or Solution objects along with any custom objects within your Salesforce organization.



2.4 Relationship between Objects

Master-Detail Relationship

A master-detail relationship defines the relationship between the parent and the child.

The master table defines the parent relation and the detail defines the child relation.

The screenshot shows the Salesforce Object Manager interface. A custom field named 'Travel Approval' is being edited under the 'Expense Items' object. In the 'Fields & Relationships' section, the 'Master-Detail Options' tab is selected. It shows that the field is related to the 'Travel Approval' object, and the child relationship name is 'Expense_Items'. The data type is 'Master-Detail'.

Look up Relationship

Lookup Relationship in Salesforce relates two objects together but does not affect deletion (cascade delete functionality) or security.

The screenshot shows the Salesforce Object Manager interface. A custom field named 'Employee Detail' is being edited under the 'Expense' object. In the 'Fields & Relationships' section, the 'Lookup Options' tab is selected. It shows that the field is related to the 'Employee_Detail' object, and the child relationship name is 'Expenses'. The data type is 'Lookup'.

Build A Employee Travel Approval Application For Corporates

The screenshot shows the Salesforce Object Manager interface for the 'Travel Approval' object. A new custom field, 'Department', is being created. The 'Field Label' is 'Department', 'Field Name' is 'Department', and 'API Name' is 'Department__c'. The 'Object Name' is 'Travel Approval' and the 'Data Type' is 'Lookup'. The 'Related To' field is set to 'Department' and the 'Child Relationship Name' is 'Travel_Approvals'. The 'Data Type' is 'Lookup'.

Roll-up Summary

Roll-Up Summary Fields in Salesforce summarize data of particular fields from a set of related detail records and automatically display the output on the master record.

The screenshot shows the Salesforce Object Manager interface for the 'Travel Approval' object. A new roll-up summary field, 'Total Expenses', is being created. The 'Field Label' is 'Total Expenses', 'Field Name' is 'Total_Expenses', and 'API Name' is 'Total_Expenses__c'. The 'Object Name' is 'Travel Approval'. In the 'Roll-Up Summary Options' section, the 'Summarized Object' is 'Expense Items' and the 'Field to Aggregate' is 'Expense Items: Amount'. The 'Summary Type' is 'SUM'.

2.5 Customize User Interface

Customize your app's page layouts, compact layouts, and actions.

Page Layout

A page layout determines the fields, sections, related lists, and buttons that appear when users view or edit a record. You can modify an object's default page layout or create a custom page layout.

The screenshot shows the Salesforce Setup interface with the 'Profiles' page layout selected. The left sidebar includes links like Setup Home, Service Setup Assistant, Commerce Setup Center, Multi-Factor Authentication Assistant, Hyperforce Assistant, Release Updates, Lightning Experience Transition Assistant, Salesforce Mobile App, Lightning Usage, Optimizer, and Administration. Under Administration, there are sections for Users (Permission Set Groups, Permission Sets) and Profiles. The main area displays two side-by-side tables for 'Accounts' and 'Leads'. Each table has columns for Read, Create, Edit, Delete, View All, Modify All, and Administration. The 'Accounts' table lists AI Insight Reasons, AI Record Insights, Alternative Payment Methods, API Anomaly Event Stores, App Analytics Query Requests, Application Usage Assignments, Appointment Categories, Appointment Invitations, Appointment Schedule Aggregates, Appointment Schedule Logs, and Appointment Topic Time Slots. The 'Leads' table lists Leads, Legal Entities, Locations, Location Groups, Location Group Assignments, Macros, Messaging Sessions, Messaging Users, Operating Hours, Opportunities, Orders, and Party Consents. Both tables have checkboxes for each permission level.

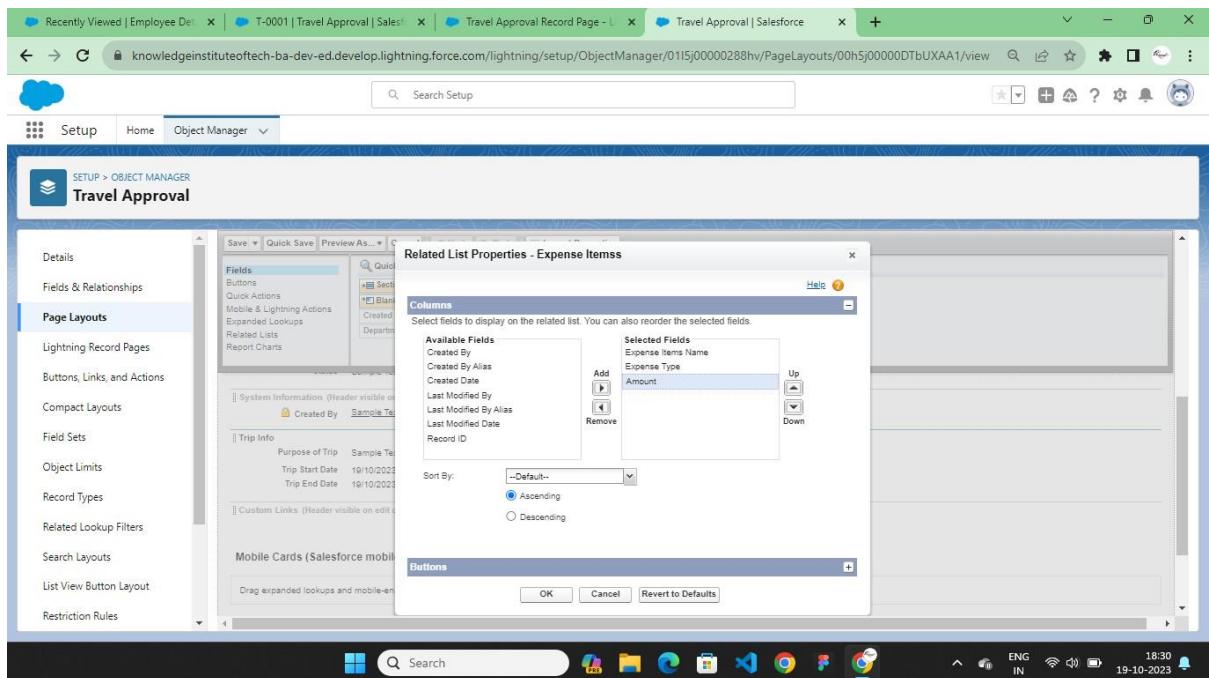
The screenshot shows the Salesforce Setup interface with the 'Travel Approval' object selected in the Object Manager. The left sidebar lists Details, Fields & Relationships, Page Layouts (selected), Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. In the main area, the 'Page Layouts' tab is active. A 'Section Properties' dialog box is open over the page layout editor. The dialog shows a 'Section Name' field with 'Trip Info' and checkboxes for 'Display Section Header On Detail Page' and 'Edit Page'. Below this are 'Layout' and 'Tab-key Order' settings. The layout is set to '2-Column' and the tab-key order is 'Left-Right'. The page layout editor itself shows various fields like Status, Trip Start Date, Trip End Date, Out Of State, Destination State, Department, and Created By, along with their respective values and field types.

Build A Employee Travel Approval Application For Corporates

The screenshot shows the Lightning App Builder interface. The top navigation bar includes tabs for 'Recently Viewed | Employee Det...', 'T-0001 | Travel Approval | Sales...', and 'Travel Approval Record Page - L...'. The main area displays a 'Travel Approval' record page with fields like 'Purpose of trip', 'Arrival Date', 'Leave Date', 'Trip Start Date', 'Trip End Date', 'Out of State', 'Destination State', 'Department', and 'Technology'. The right sidebar is titled 'Record Detail' and contains sections for 'start putting individual fields and sections anywhere on the page.', 'Upgrade Now', 'Record Detail content comes from page layouts.', 'See How It Works', 'Set fields in Page Layouts', 'Assign Page Layouts', 'Travel Approval Layout (previewed)', 'View all layouts', and 'Set Component Visibility' with a '+ Add Filter' button.

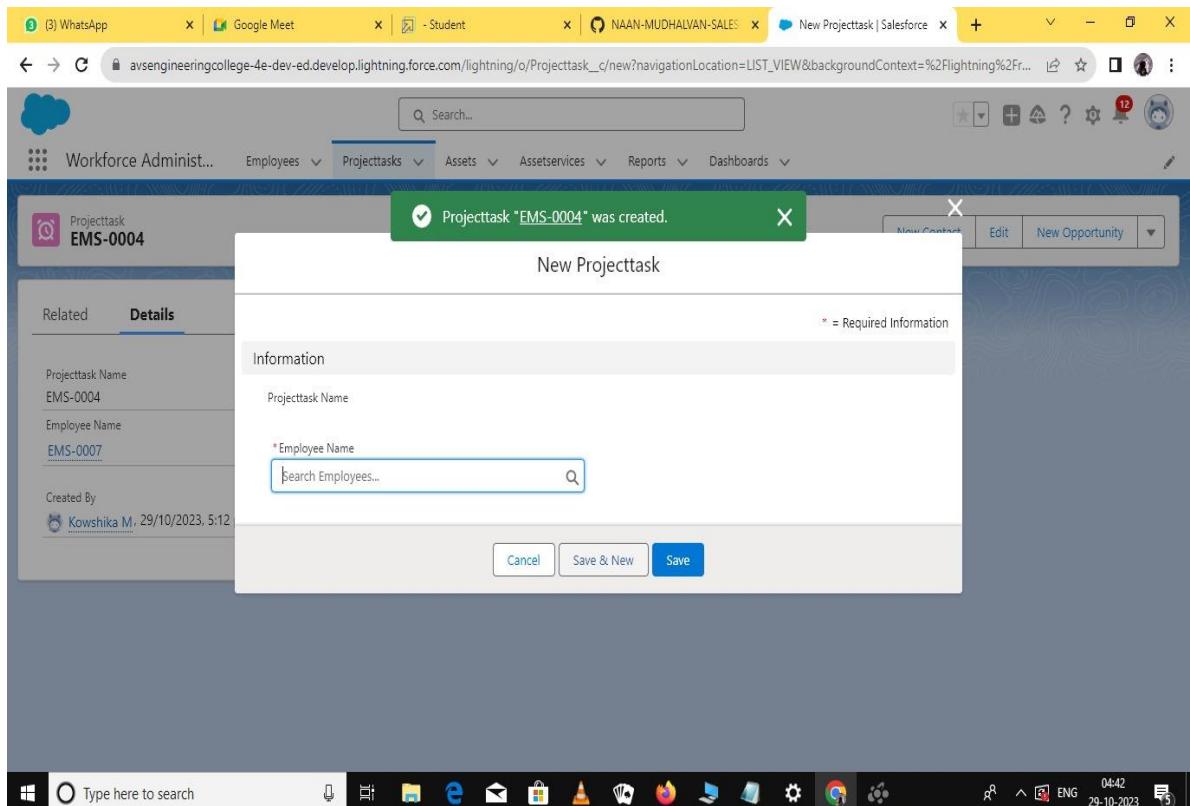
The screenshot shows the Salesforce Setup Object Manager. The top navigation bar includes tabs for 'Recently Viewed | Employee Det...', 'T-0001 | Travel Approval | Sales...', and 'Travel Approval Record Page - L...'. The main area is titled 'SETUP > OBJECT MANAGER' and shows the 'Travel Approval' object. On the left, a sidebar lists categories such as 'Details', 'Fields & Relationships', 'Page Layouts' (which is selected), 'Lightning Record Pages', 'Buttons, Links, and Actions', 'Compact Layouts', 'Field Sets', 'Object Limits', 'Record Types', 'Related Lookup Filters', and 'Search Layouts'. The right pane is titled 'Page Layouts' and shows a table with one item: 'Travel Approval Layout' created by 'VIGNAYA G S' on 17/10/2023 at 8:40 pm, last modified by 'VIGNAYA G S' on 19/10/2023 at 6:26 pm. The table includes columns for 'PAGE LAYOUT NAME', 'CREATED BY', and 'MODIFIED BY'. The bottom of the screen shows the Windows taskbar with various application icons and system status.

Build A Employee Travel Approval Application For Corporates



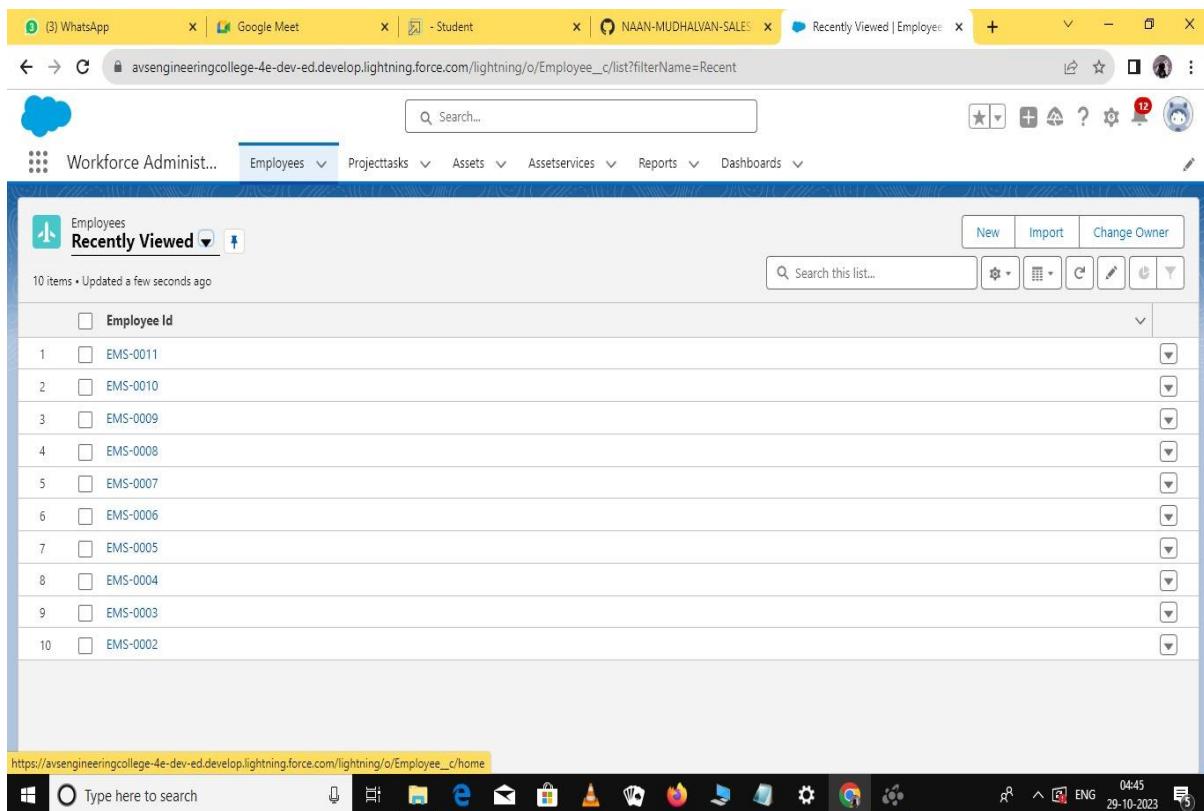
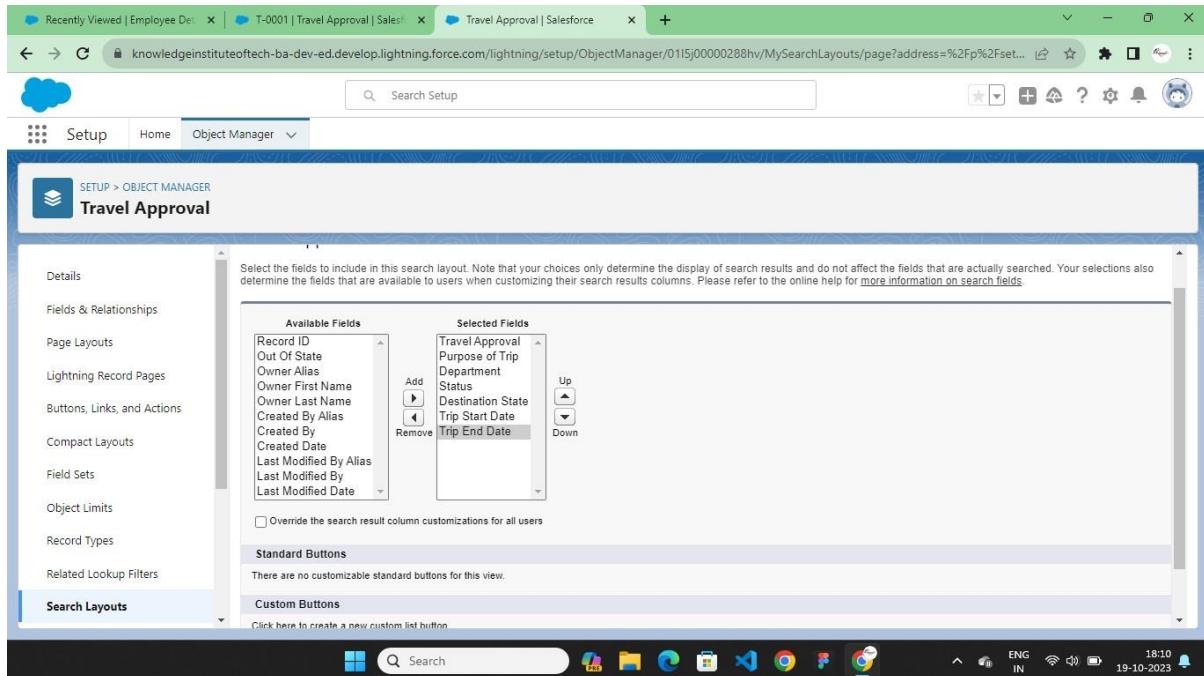
List View

A list view is a set of search conditions that displays records that match the search conditions.



Search Layout

Create search layouts for standard and custom objects, ensuring the layout shows users what's most relevant to them.



2.6 Business Logic

Validation Rules

Validation rules let you set up business-specific criteria to prevent users from saving invalid data in one or more fields.

A validation rule evaluates a formula when a record is saved.

If a rule's criteria aren't met, users see a custom error message and the record doesn't save.

If a rule's criteria are met, the record saves.

Use validation rules to improve data quality by applying conditions, ensuring proper formatting, and enforcing consistency.

The screenshot shows a browser window with the URL <knowledgeinstituteoftech-ba-dev-ed.lightning.force.com/lightning/setup/ObjectManager/page?address=%2F03d5j000000RGcA>. The page title is "Travel Approval Validation Rule". The page displays the following details:

Validation Rule Detail	Action		
Rule Name	Trip_end_date_after_start_date	Active	<input checked="" type="checkbox"/>
Error Condition Formula	Trip_End_Date__c < Trip_Start_Date__c	Error Location	Trip End Date
Error Message	Trip end date must be greater than or equal to start date		
Description		Modified By	VIGNAYA.G.S, 19/10/2023, 6:51 pm
Created By	VIGNAYA.G.S, 19/10/2023, 6:51 pm		

At the bottom of the page, there are "Edit" and "Clone" buttons. The page is part of the "Object Manager" section, which is highlighted in the top navigation bar.

CHAPTER-3

USERS & DATA SECURITY

3.1 User Creation & Setup Approvals

Before customizing the travel app, first create a new user, Eric Executive, and set him up as manager. This involves assigning roles and profiles so that Eric has the correct permissions to approve travel requests.

Build A Employee Travel Approval Application For Corporates

The screenshot shows the Salesforce Setup interface for managing users. The left sidebar is expanded, showing categories like Users, Feature Settings, and Data.com. The main content area is titled 'Users' and contains several sections: 'Single Sign On Information' (Country set to IN), 'Locale Settings' (Time Zone set to (GMT+05:30) India Standard Time (Asia/Kolkata), Locale set to English (India), Language set to English), and 'Approver Settings' (Delegated Approver field empty, Manager field set to 'Eric Executive', and a dropdown for 'Receive Approval Request Emails' set to 'Only if I am an approver'). At the bottom are 'Save', 'Save & New', and 'Cancel' buttons.

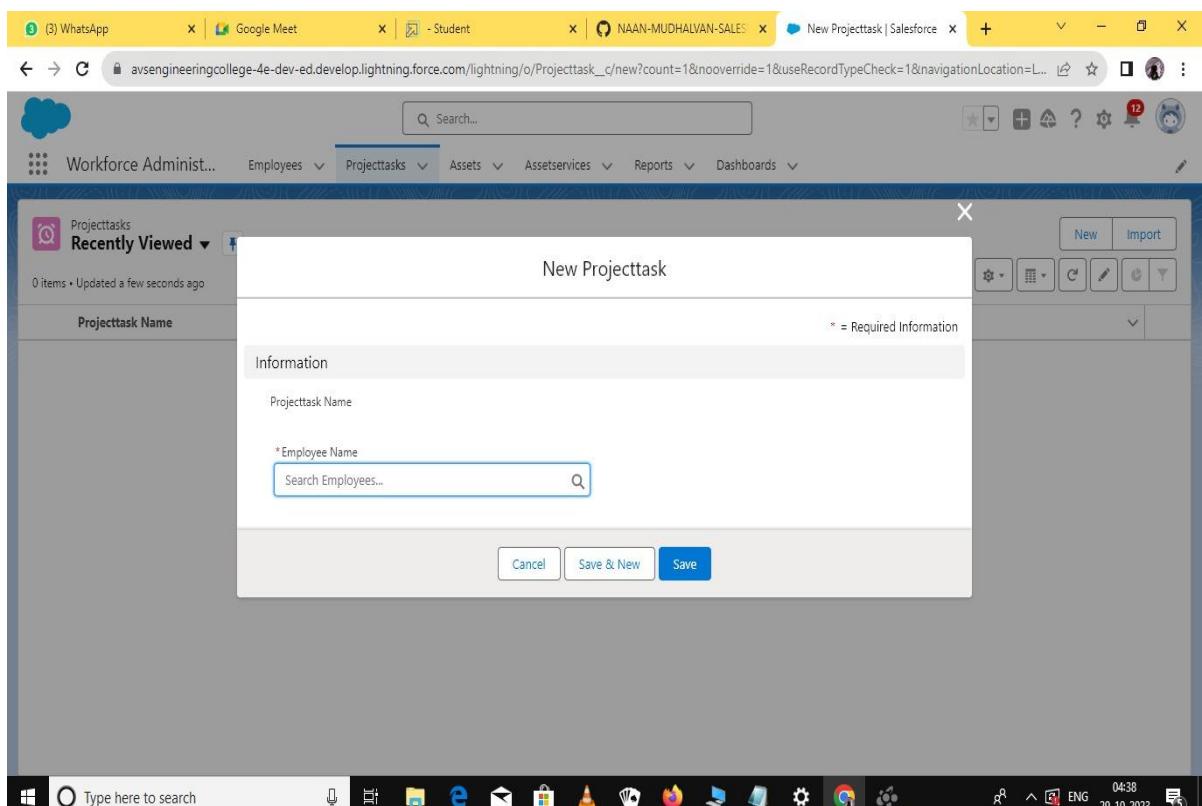
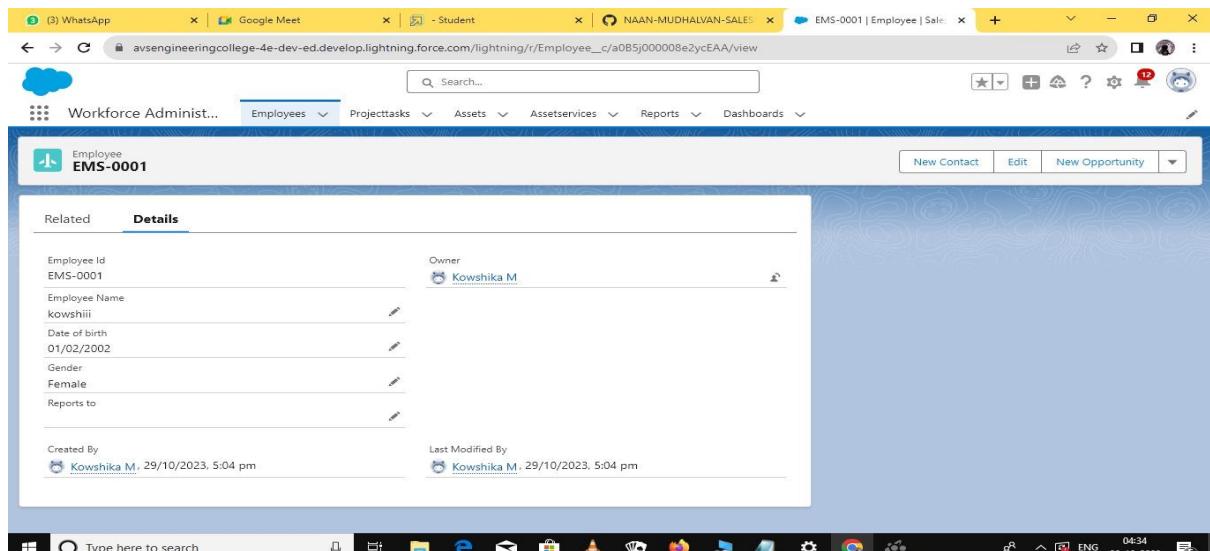
The screenshot shows the Salesforce Setup interface for managing users. The left sidebar is expanded, showing categories like Users, Feature Settings, and Data.com. The main content area is titled 'Users' and contains several sections: 'Public Group Membership' (New Group button), 'Queue Membership' (New Queue button), 'Team' (a table showing one record: Name 'Eric Executive', Title 'exec', Alias 'executive', Username 'executive@ceo.com', Active status checked, Manager checked), 'Managers in the Role Hierarchy' (No records to display), and 'OAuth Apps' (a table showing two OAuth app records). The table columns include Action, Created Date, Last Used, Application, and Use Count. The first record is for 'Revoke' on 19/10/2023 at 2:13:37 pm IST, application 'Trailhead Connected App', use count 2. The second record is for 'Revoke' on 18/10/2023 at 2:00:39 pm IST, application 'ibid.digital:salesforce.com', use count 1.

CHAPTER-4

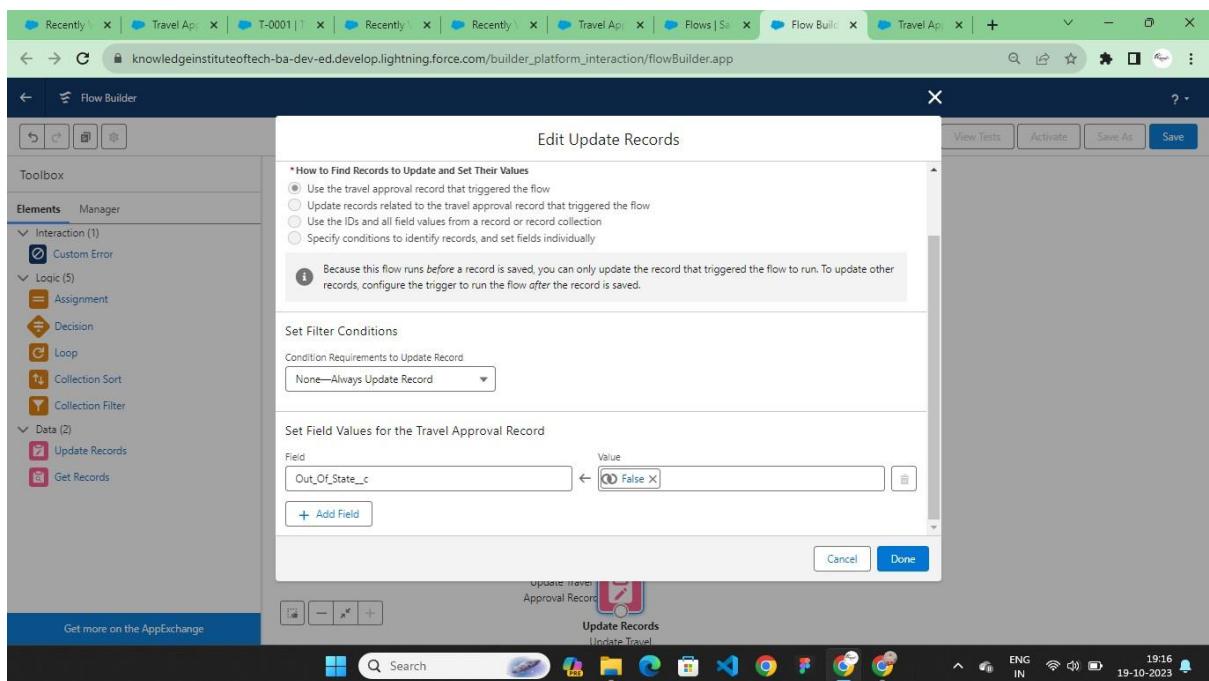
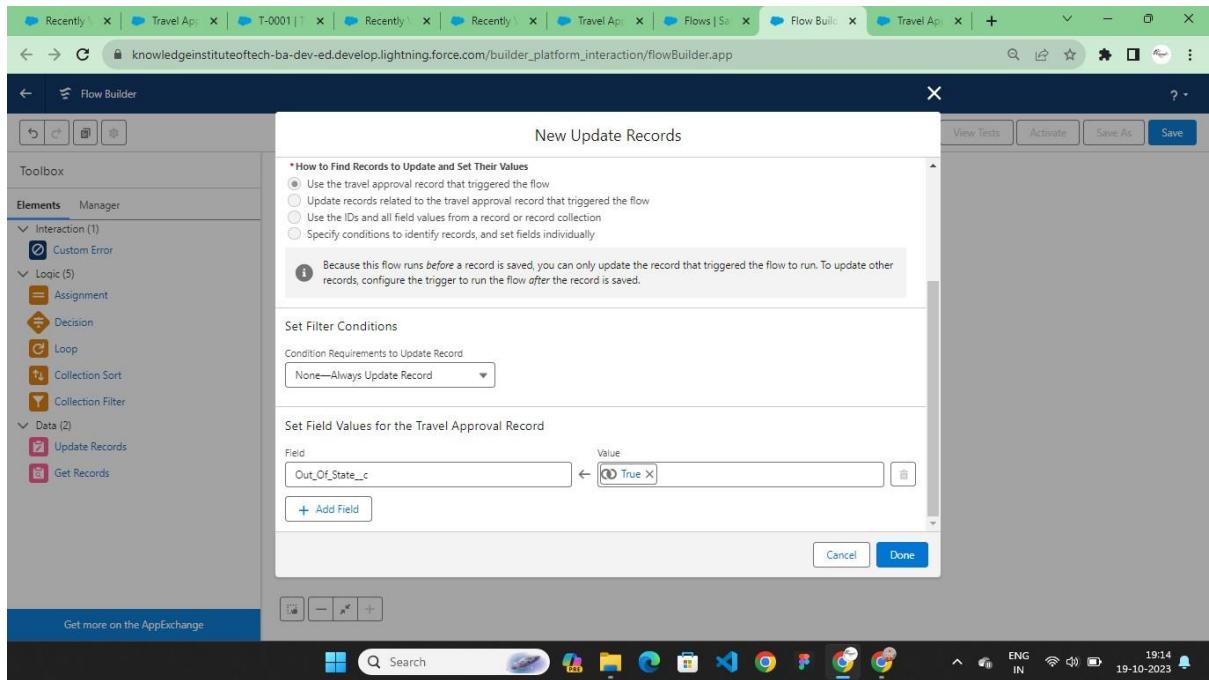
AUTOMATION

4.1 Flow

The last business rule functionality to implement before testing your application is a rule to set the Out-of-State checkbox field on the Travel Approval object if out-of-state travel has been chosen. Salesforce offers workflow capabilities that provide a declarative, drag-and-drop design environment to build our business process logic.



Build A Employee Travel Approval Application For Corporates

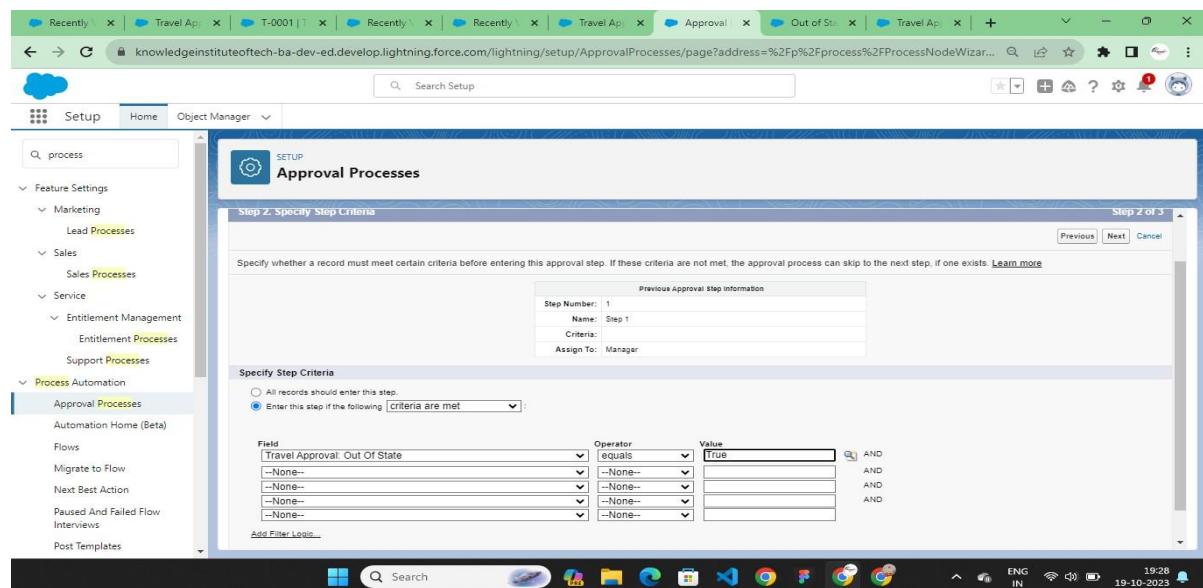
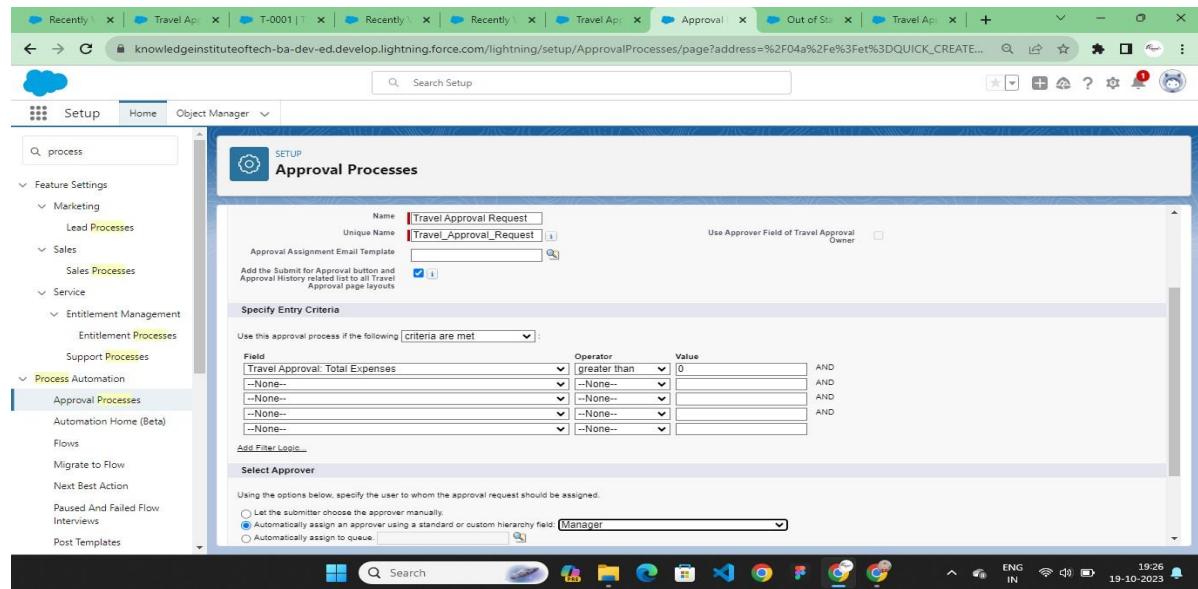


4.2 Approval Process

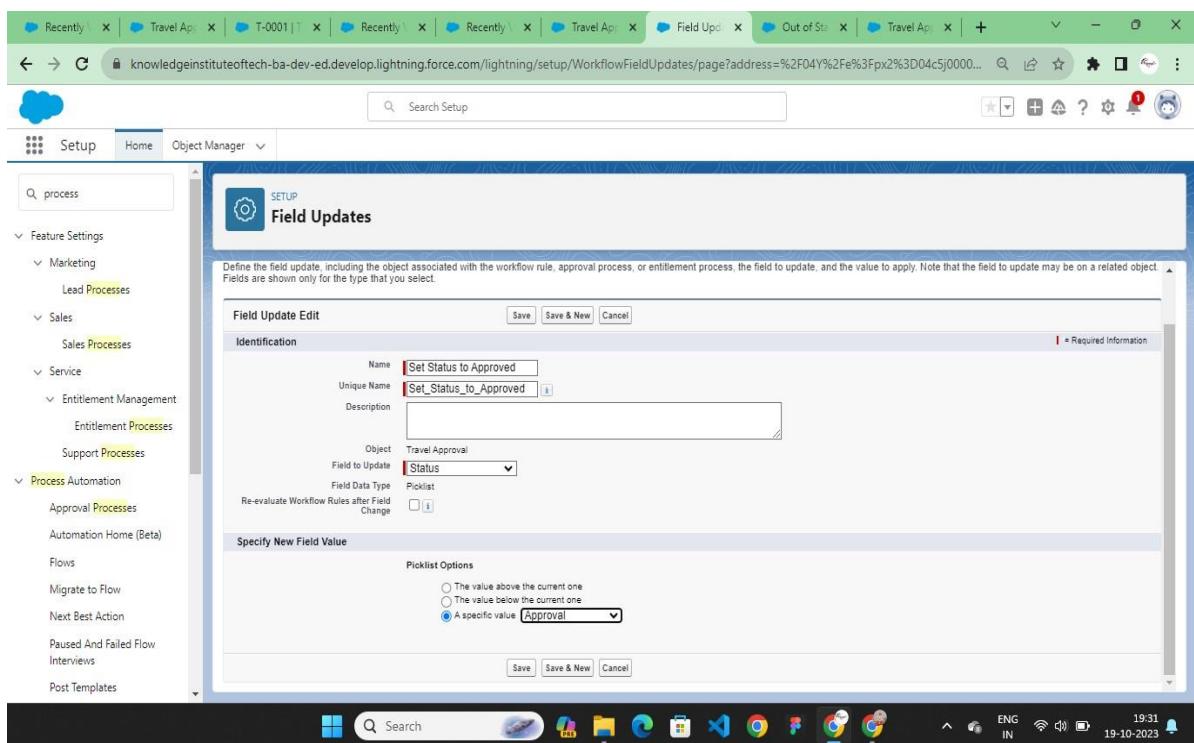
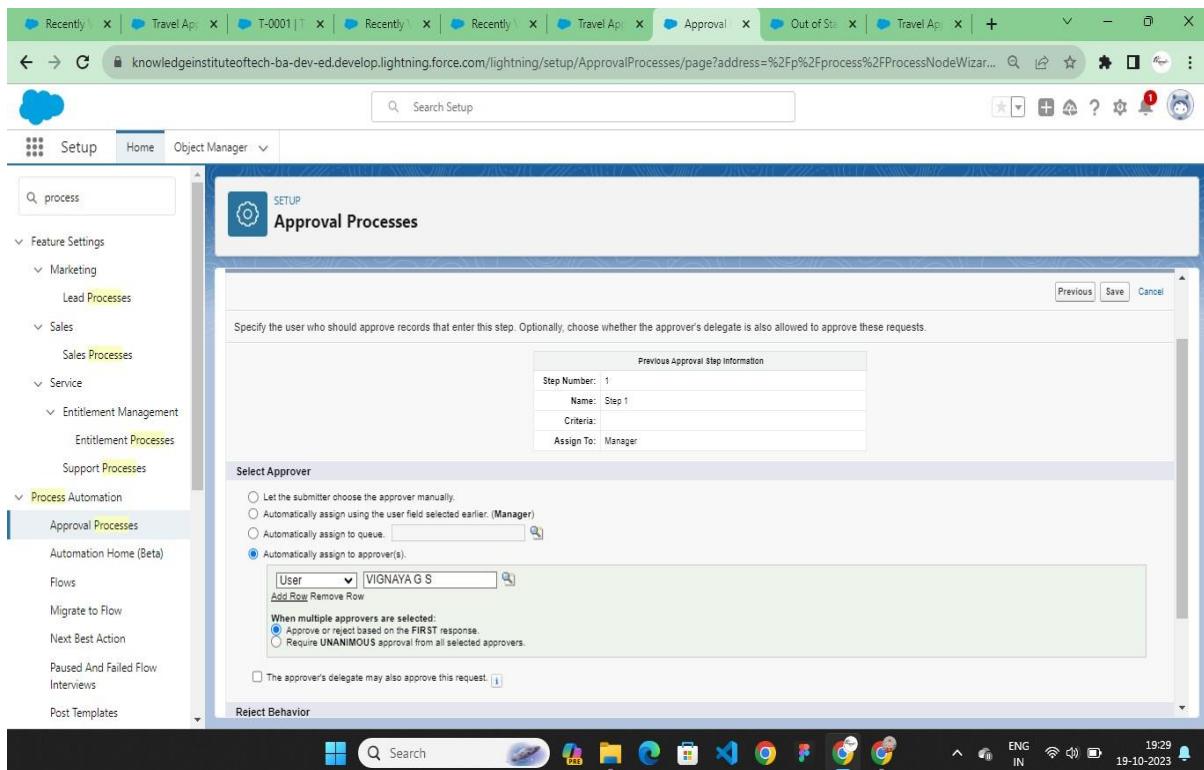
An approval process is an automated process your agency can use to approve records in Salesforce.

An approval process specifies the criteria a record must meet before it can be submitted for approval, the steps necessary for a record to be approved, and who must approve it at each step.

A step can apply to all records included in the process or just records that have certain attributes. An approval process also specifies the actions to take when a record is approved, rejected, recalled, or first submitted for approval.



Build A Employee Travel Approval Application For Corporates



Final Views

The screenshot shows the Salesforce Lightning interface for a 'Travel Approval' record. The record ID is T-0001. The page includes fields for Purpose of Trip (Attend Dreamforce), Status (Draft), Trip Start Date (21/10/2023), Trip End Date (24/10/2023), Out Of State (checked), Destination State (CA), and Department (Technology). The owner of the record is VIGNAYA G S.

The screenshot shows the 'Expense Items' section of the 'Travel Approval' record page. There are two expense items listed:

Expense Item Name	Expense Type	Amount
Airfare	Airfare	₹450.00
Hotel	Hotel	₹870.00

Build A Employee Travel Approval Application For Corporates

Travel Approval T-0001

Related Details

Travel Approval
T-0001

Status Draft

Total Expenses ₹1,320.00

Status Indicator

Created By VIGNAYA G S, 19/10/2023, 2:25 pm

Last Modified By VIGNAYA G S, 19/10/2023, 2:25 pm

Trip Info

Purpose of Trip Attend Dreamforce

Trip Start Date 21/10/2023

Trip End Date

Out Of State

Destination State CA

Chatter

Post Poll Question

Share an update... Share

VIGNAYA G S 56 ago @Eric Executive Which department should I associate this travel request with?

1 comment • 1 view

Like Comment

Eric Executive likes this.

Eric Executive an hour ago

ENG IN 19:40 19-10-2023

Travel Approval T-0001

Related Details

Travel Approval
T-0001

Status Draft

Total Expenses ₹1,320.00

Status Indicator

Created By VIGNAYA G S, 19/10/2023, 2:25 pm

Trip Info

Purpose of Trip Attend Dreamforce

Trip Start Date 21/10/2023

Trip End Date

Out Of State

Destination State CA

Comments

successfully submitted

Cancel Submit

Chatter

Post Poll Question

Share an update... Share

VIGNAYA G S 56 ago @Eric Executive Which department should I associate this travel request with?

1 comment • 1 view

Like Comment

Eric Executive likes this.

Eric Executive an hour ago

ENG IN 19:41 19-10-2023

Build A Employee Travel Approval Application For Corporates

The screenshot shows a travel approval application interface. At the top, there are tabs for 'Travel Approvals' and 'Expenses'. Below the tabs, a table lists expense items:

Expense Item Name	Expense Type	Amount
Airfare	Airfare	₹450.00
Hotel	Hotel	₹870.00

Below the table is a section titled 'Approval History (2)' showing two steps:

Step Name	Date	Status	Assigned To
Step 1	19/10/2023, 7:41 pm	Pending	Eric Executive
Approval Request Submitted	19/10/2023, 7:41 pm	Submitted	VIGNAYA G S

The right side of the screen displays a Chatter feed. A post from 'VIGNAYA G S' asks, '@Eric Executive Which department should I associate this travel request with?'. Eric Executive replies, 'Technology is the correct department.' There is also a comment from Eric Executive asking for a like.

The screenshot shows a travel approval application interface. At the top, there are tabs for 'Travel Approvals' and 'Expenses'. Below the tabs, a table lists expense items:

Travel Approval	Owner
T-0002	VIGNAYA G S

Below the table is a section titled 'Details' showing the status as 'Rejected' and total expenses as ₹450.00. The status indicator shows a red 'X'. The record was created by VIGNAYA G S on 19/10/2023, 7:46 pm, and last modified by Eric Executive on 19/10/2023, 7:49 pm.

The right side of the screen displays a Chatter feed. Eric Executive updates the record, stating 'Submitted to Rejected'. There is also a comment from Eric Executive asking for a like.

Build A Employee Travel Approval Application For Corporates

Recently Viewed | Travel Approval

knowledgeinstituteoftech-ba-dev-ed.lightning.force.com/lightning/o/Travel_Approval__c/list?filterName=Recent

Travel Approvals

Recently Viewed

10 Items • Updated a few seconds ago

	Travel Approv...	Purpose of Trip	Department	Status	Destinati...	Trip Start Date	Trip End Date
1	<input type="checkbox"/> T-0004	Abernathy, Beatty and Leffler	Division of Finance	Approved	CA	09/03/2022	09/03/2022
2	<input type="checkbox"/> T-0011	Roberts Inc	Disability Determination Bureau	Submitted	CA	05/07/2022	09/07/2022
3	<input type="checkbox"/> T-0006	Weber-Herman	Disability Determination Bureau	Draft	OK	06/03/2022	07/03/2022
4	<input type="checkbox"/> T-0033	Olson-Schmidt	Audit Services	Approved	CA	22/11/2022	28/11/2022
5	<input type="checkbox"/> T-0029	Wyman Group	Audit Services	Pending Approval	FL	31/05/2022	04/06/2022
6	<input type="checkbox"/> T-0013	McKenzie Inc	Human Resources	Submitted	GA	27/08/2022	08/09/2022
7	<input type="checkbox"/> T-0009	Ebert Inc	Office of Early Childhood and Out-of-School Learning	Pending Approval	OK	23/04/2022	05/05/2022
8	<input type="checkbox"/> T-0003	Homenick, Waters and Gusikowski	Division of Disability and Rehabilitative Services	Approved	OK	03/04/2022	06/04/2022
9	<input type="checkbox"/> T-0002	Attend Party	Technology	Rejected	TN	24/10/2023	26/10/2023
10	<input type="checkbox"/> T-0001	Attend Dreamforce	Technology	Approved	CA	21/10/2023	24/10/2023

Recently Viewed | Employee

Travel Approval | Salesforce

Approval Processes | Salesforce

Reports | Salesforce

Chatter Home | Salesforce

knowledgeinstituteoftech-ba-dev-ed.lightning.force.com/lightning/page/chatter

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...

T-0001 — VIGNAYA GS 1h ago

@Eric Executive Which department should I associate this travel request with?

Like Comment 1 comment · 1 view

Eric Executive likes this.

Eric Executive 2 hours ago Technology is the correct department. Like

Write a comment...

Einstein Recommendations

- Eric Executive Your manager + Follow Skip
- Integration User Joined in the last week + Follow Skip
- Security User Joined in the last week + Follow Skip

CHAPTER-5

REPORTS & DASHBOARD

5.1 Reports

A Salesforce report is a list of data generated based on filter criteria. Salesforce Reports helped us predict trends and gives us the advantage to increase profits.

The report builder provides a drag-and-drop interface to easily build and customize your reports.

The screenshot shows the Salesforce Reports & Dashboard interface. At the top, there are several tabs: Recently Viewed | Employee, Travel Approval | Salesforce, Approval Processes | Salesforce, Reports | Salesforce (which is active), and Reports | Salesforce. Below the tabs is a navigation bar with icons for Home, Search, Chatter, and other functions. The main content area displays a table of recent reports. The table has columns for Report Name, Description, Folder, Created By, Created On, and Subscribed. There are filters on the left for Reports (Recent, Created by Me, Private Reports, Public Reports, All Reports) and Folders (All Folders). On the right, there are search fields for 'Search recent reports...' and 'New Report' and 'New Folder' buttons. The bottom of the screen shows the Windows taskbar with various pinned icons and system status indicators.

REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	Travel Requests by Month		Public Reports	VIGNAYA G S	19/10/2023, 8:13 pm	<input type="checkbox"/>
Created by Me	Travel Requests by Department		Public Reports	VIGNAYA G S	19/10/2023, 8:02 pm	<input type="checkbox"/>
Private Reports	Sample Flow Report: Screen Flows	Which flows run, what's the status of each interview, and how long do users take to complete the screens?	Public Reports	Automated Process	17/10/2023, 8:01 pm	<input type="checkbox"/>
Public Reports						

Build A Employee Travel Approval Application For Corporates

The screenshot shows a Salesforce report titled "Travel Requests by Department". The report displays travel approvals across different departments. The columns include Department, Travel Approval: Travel Approval, Status, Out Of State, Destination State, Trip Start Date, and Trip End Date. The data is grouped by department, with subtotals for each. The total number of records is 48, and the total count of trips out of state is 40.

Department	Travel Approval: Travel Approval	Status	Out Of State	Destination State	Trip Start Date	Trip End Date
Audit Services (4)	T-0029	Pending Approval	<input checked="" type="checkbox"/>	FL	31/05/2022	04/06/2022
	T-0033	Approved	<input checked="" type="checkbox"/>	CA	22/11/2022	28/11/2022
	T-0048	Rejected	<input checked="" type="checkbox"/>	CA	07/04/2022	19/04/2022
	T-0005	Rejected	<input checked="" type="checkbox"/>	FL	09/08/2022	15/08/2022
Subtotal					4	
Disability Determination Bureau (4)	T-0030	Rejected	<input type="checkbox"/>	TX	15/09/2022	15/09/2022
	T-0041	Rejected	<input checked="" type="checkbox"/>	OK	20/12/2022	20/12/2022
	T-0006	Draft	<input checked="" type="checkbox"/>	OK	06/03/2022	07/03/2022
	T-0011	Submitted	<input checked="" type="checkbox"/>	CA	05/07/2022	09/07/2022
Subtotal					3	
Division of Aging (3)	T-0035	Rejected	<input checked="" type="checkbox"/>	CA	08/06/2022	22/06/2022
	T-0046	Rejected	<input type="checkbox"/>	TX	11/02/2022	11/02/2022
	T-0017	Rejected	<input checked="" type="checkbox"/>	GA	24/12/2022	08/01/2023
Subtotal					2	

The screenshot shows the Report Builder interface for creating a new report titled "Travel Approvals". The report is currently previewing a limited number of records. The report structure includes groups by Trip End Date, Trip Start Date, and Department, with subtotals for each group. The columns include Trip End Date, Trip Start Date, Travel Approval: Travel Approval, Department, Status, Out Of State, and Destination State. The report is set to run automatically and includes options for conditional formatting.

Trip End Date	Trip Start Date	Travel Approval: Travel Approval	Department	Status	Out Of State	Destination State
January 2022 (1)	04/01/2022 (1)	T-0036	Office of Early Childhood and Out-of-School Learning	Rejected	<input checked="" type="checkbox"/>	OK
		Subtotal				1
						1
March 2022 (2)	13/03/2022 (1)	T-0020	Division of Disability and Rehabilitative Services	Rejected	<input checked="" type="checkbox"/>	GA
		Subtotal				1
						1
19/03/2022 (1)	T-0023	Office of Medicaid Policy and Planning	Rejected	<input checked="" type="checkbox"/>	GA	
		Subtotal				1
						2
April 2022 (1)	21/04/2022 (1)	T-0031	Human Resources	Rejected	<input checked="" type="checkbox"/>	FL
		Subtotal				1
						1
June 2022 (3)	31/05/2022 (1)	T-0029	Audit Services	Pending Approval	<input checked="" type="checkbox"/>	FL
		Subtotal				1
						1
	08/06/2022 (1)	T-0035	Division of Aging	Rejected	<input checked="" type="checkbox"/>	CA
		Subtotal				1

5.2 Dashboard

A dashboard provides an interactive visual display of key metrics and trends. Multiple dashboard components can be shown together on a single dashboard layout, creating rich visual displays of multiple reports that have a common theme.

The screenshot shows a browser window with several tabs open at the top, including WhatsApp, Google Meet, Student, NAAN-MUDHALVAN-SALES, and Recently Viewed | Employee. The main content area is a Salesforce Lightning component titled "Employees Recently Viewed". It displays a list of 10 recently viewed employee records, each with a checkbox and a dropdown arrow. The list includes entries like EMS-0011, EMS-0010, EMS-0009, EMS-0008, EMS-0007, EMS-0006, EMS-0005, EMS-0004, EMS-0003, and EMS-0002. Below the list are "New", "Import", and "Change Owner" buttons. At the bottom of the component, there is a search bar and a toolbar with various icons. The URL https://avengineeringcollege-4e-dev-ed.develop.lightning.force.com/lightning/o/Employee__c/home is visible in the address bar. The taskbar at the bottom of the screen shows various application icons.

CHAPTER-6

CONCLUSION

In conclusion, a well-implemented Workforce Administration solution is an invaluable asset for any organization. It serves as the cornerstone for efficient HR operations and employee management. By streamlining processes, enhancing compliance, and improving data accuracy, it empowers both HR professionals and employees. The ability to access and manage information conveniently, along with robust reporting and analytics, facilitates informed decision-making. Scalability, integration, and security ensure that the solution can evolve with the organization's needs. Overall, a successful Workforce Administration solution contributes to cost reduction, employee satisfaction, and the overall health and productivity of the workforce. It is a key enabler of modern HR practices and organizational success.

CHAPTER-7

PROJECT DEMONSTRATION

Github:

<https://github.com/M52KOWSHIKA/Naanmudhalvansalesforce>

Demo Link:

<https://youtu.be/eHF436mU0a4?feature=shared>