Leave Tracker App

Industry: Corporate / General Business

Project Type: Salesforce LWC implementation for a Leave Management App to streamline employee leave requests and automate approvals.

Target Users:

- **Employees:** Need to submit new leave requests and view the status of their past requests.
- **Managers:** Need to approve or reject their direct reports' leave requests.
- HR/Admins: Need to see a comprehensive overview of all employee leave and generate reports.

Problem Statement: Currently, the company handles employee leave requests through emails and spreadsheets. This causes mistakes like double bookings, lost requests, and no real-time tracking. A centralized automated system is needed to make leave management easier and more accurate.

Phase 1: Problem Understanding & Requirements

• Goal: Define the purpose and scope of the Leave Management App.

Requirement Gathering:

- Track all employee leave requests.
- o Show leave balances for each employee.
- Allow managers to approve or reject leave requests.
- Prevent employees from submitting overlapping leave requests.
- o Generate a report of all approved leaves.

• Stakeholder Analysis:

- Admin: Manages the system setup.
- Employees: Submit and view their own leave requests.

- Managers: Approve or reject leave requests and view team calendars.
- HR: Oversees leave policies and reports.

Business Process Mapping:

 Draw a flow: Employee submits request → Manager receives notification → Manager approves/rejects → Employee is notified of the decision.

• Industry Analysis:

 Consider industry-specific use cases, such as different types of leave (sick, vacation, etc.) and company-specific policies.

Phase 2: Org Setup & Configuration:

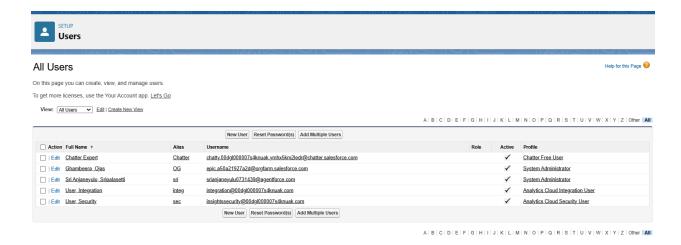
Goal: Prepare your Salesforce Developer Edition environment.

Company Profile Setup: Set up your company's information, local time zone, and currency in Salesforce.



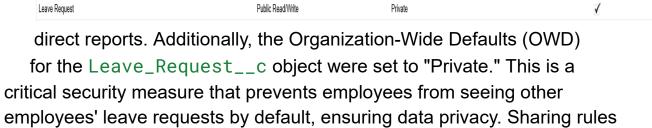
User Setup & Profiles:

Create users for employees and managers. Create custom profiles or permission sets for different access levels. For example, employees can create their own requests, while managers have approval access.



Roles & Sharing:

The organization's reporting structure was established using a role hierarchy. A "Manager" role was created above the "Employee" role to ensure that managers can automatically see the leave requests of their



Roles Creating the Role Hierarchy You can build on the existing role hierarchy shown on this page. To insert a new role, click Add Role Your Organization's Role Hierarchy Show in tree view Collapse All Expand All

Chalapathi Institute of Technology Add Role

CEO Edit | Del | Assign Add Role CFO Edit | Del | Assign Add Role COO Edit | Del | Assign Manager Edit | Del | Assign Employee Edit | Del | Assign SVP, Customer Service & Support Edit | Del | Assign Add Role SVP, Human Resources Edit | Del | Assign SVP, Sales & Marketing Edit | Del | Assign

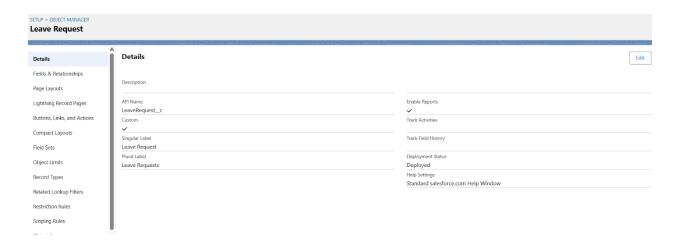
will be used to open up access as needed.

Dev Org Setup:

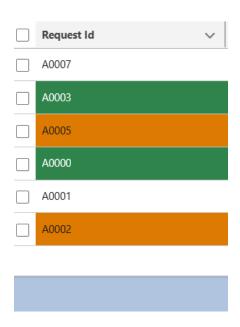
A Salesforce Developer Org was used as the primary development environment. This approach provides a safe, isolated sandbox for building and testing all custom components, Apex code, and automations without affecting a live production environment.

Phase 3: Data Modeling & Relationships

- Goal: Design the data structure for the app.
- Objects:
 - Standard: Use the User object to represent employees and managers.
 - Custom: Create a Leave_Request__c object to store leave information.



Request Id: A system-generated identifier for each record.



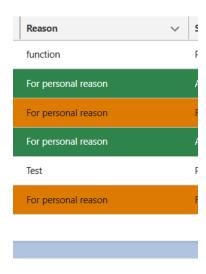
User: A lookup relationship to the User object, correctly linking the leave request to the employee who submitted it.



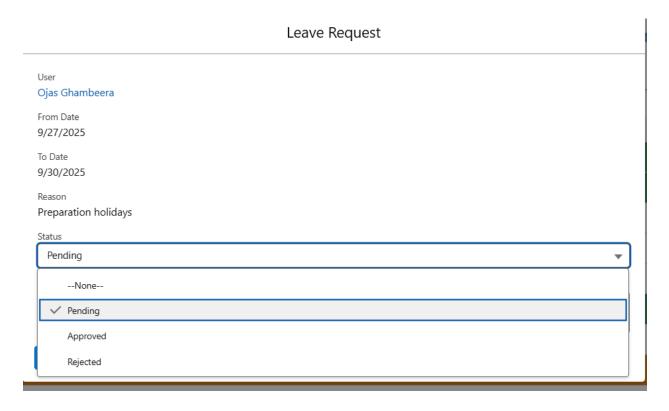
From Date and **To Date**: Date fields that define the duration of the leave.

From Date	✓ To Date
2025-09-26	2025-09-28
2025-03-10	2025-03-11
2025-03-19	2025-03-19
2023-03-10	2023-03-11
2023-03-15	2023-03-15
2023-03-19	2023-03-19

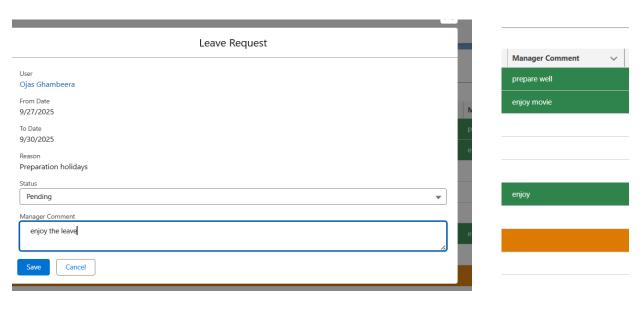
Reason: A text field to capture the employee's reason for the leave.



Status: A picklist field that tracks the current state of the request (e.g., Pending, Approved, Rejected).



Manager Comment: A text field for the manager to add notes during the approval process.

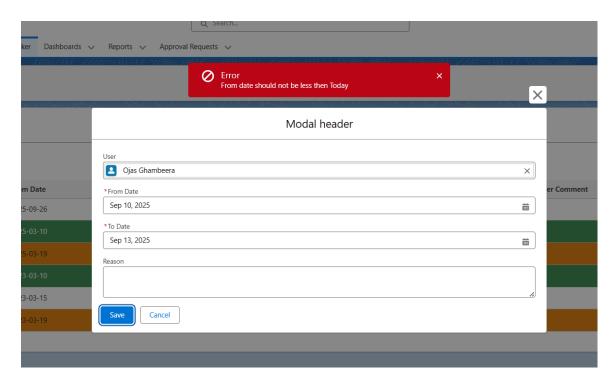


Phase 4: Process Automation (Admin)

• Goal: Automate key business processes.

Validation Rules:

- Create a rule to ensure the End Date is after the Start Date.
- Create a rule to prevent an employee from submitting a request with a past start date.



Flow Builder:

- Use a Record-Triggered Flow to automatically set the Status to 'Pending' when a new leave request is created.
- Use a Screen Flow to create a custom form for employees to submit a new request.



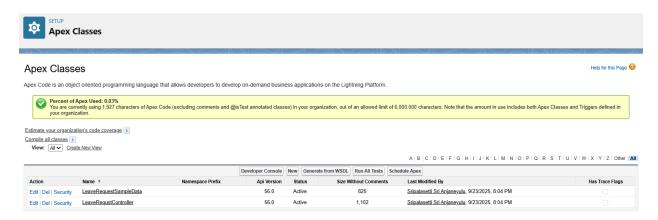
Approval Process:

 Set up an approval process on the Leave_Request__c object to route requests to the assigned manager.



Phase 5: Apex Programming (Developer)

- Goal: Add custom, complex logic.
- Apex Triggers:
 - Create an Apex Trigger on the Leave_Request__c object to prevent overlapping bookings for the same employee.



```
import { api, LightningElement, wire } from 'lwc';
import getLeaveRequests from
'@salesforce/apex/LeaveRequestController.getLeaveRequests';
import { ShowToastEvent } from 'lightning/platformShowToastEvent';
import Id from '@salesforce/user/Id';
import { refreshApex } from '@salesforce/apex';

const COLUMNS = [
```

```
{ label: 'Request Id', fieldName: 'Name', cellAttributes: { class: {
fieldName: 'cellClass' } } },
    { label: 'User', fieldName: 'userName', cellAttributes: { class: {
fieldName: 'cellClass' } } },
    { label: 'From Date', fieldName: 'From Date c', cellAttributes: {
class: { fieldName: 'cellClass' } } },
    { label: 'To Date', fieldName: 'To Date c', cellAttributes: { class:
{ fieldName: 'cellClass' } } },
    { label: 'Reason', fieldName: 'Reason c', cellAttributes: { class: {
fieldName: 'cellClass' } } },
    { label: 'Status', fieldName: 'Status c', cellAttributes: { class: {
fieldName: 'cellClass' } } },
    { label: 'Manager Comment', fieldName: 'Manager Comment c',
cellAttributes: { class: { fieldName: 'cellClass' } } },
        type: "button", typeAttributes: {
           label: 'Edit',
           name: 'Edit',
           title: 'Edit',
           value: 'edit',
            disabled: { fieldName: 'isEditDisabled' }
        }, cellAttributes: { class: { fieldName: 'cellClass' } }
];
export default class LeaveRequests extends LightningElement {
   columns = COLUMNS;
```

```
leavesRequests = [];
   leavesReqeustsWireResult;
   showModalPopup = false;
   objectApiName = 'LeaveRequest c';
   recordId = '';
   currentUserId = Id;
   @wire(getLeaveRequests)
   wiredMyLeaves(result) {
       this.leavesRequustsWireResult = result;
       if (result.data) {
           this.leavesRequests = result.data.map(a => ({
               userName: a.User r.Name,
               cellClass: a.Status__c == 'Approved' ?
'slds-theme success' : a.Status c == 'Rejected' ? 'slds-theme_warning' :
               isEditDisabled: a.Status c != 'Pending'
           }));
       if (result.error) {
           console.log('Error occured while fetching my leaves- ',
result.error);
   get noRecordsFound() {
```

```
return this.leavesRequests.length == 0;
newRequestClickHandler() {
    this.showModalPopup = true;
   this.recordId = '';
popupCloseHandler() {
    this.showModalPopup = false;
rowActionHandler(event) {
    this.showModalPopup = true;
    this.recordId = event.detail.row.Id;
successHandler(event) {
    this.showModalPopup = false;
    this.showToast('Data saved successfully');
   this.refreshGrid();
@api
refreshGrid() {
```

```
refreshApex(this.leavesRequestsWireResult);
}
showToast(message, title = 'success', variant = 'success') {
    const event = new ShowToastEvent({
        title,
        message,
        variant
    });
    this.dispatchEvent(event);
}
```

• Apex Classes:

- Write a class with methods to query and return leave requests for a specific user.
- Develop a class to handle the custom logic of the approval process if needed.

LeaveRequestSampleData.cls

```
public with sharing class LeaveRequestSampleData {
    public static void createData() {
        Id currentUserId=UserInfo.getUserId();
        List<LeaveRequest__c> leaves=new List<LeaveRequest__c>();
        leaves.Add(new
LeaveRequest__c(User__c=currentUserId,From_Date__c=Date.newInstance(2025,
```

LeaveRequestController.cls

```
public with sharing class LeaveRequestController {
    @AuraEnabled(cacheable=true)

    public static List<LeaveRequest__c> getMyLeaves() {

        try {
            List<LeaveRequest__c> myLeaves=new List<LeaveRequest__c>();

            myLeaves=[SELECT

Id,Name,From_Date__c,To_Date__c,Reason__c,Status__c,Manager_Comment__c
FROM LeaveRequest__c WHERE User__c=:UserInfo.getUserId() ORDER BY
CreatedDate DESC];

        return myLeaves;
```

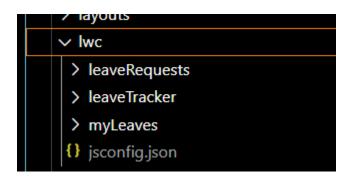
```
} catch (Exception e) {
            throw new AuraHandledException(e.getMessage());
   @AuraEnabled(cacheable=true)
   public static List<LeaveRequest c> getLeaveRequests() {
           List<LeaveRequest c> myLeaves=new List<LeaveRequest c>();
           myLeaves=[SELECT
Id, Name, From Date c, To Date c, Reason c, Status c, Manager Comment c, Use
r__r.ManagerId,User__r.Name FROM LeaveRequest__c
           WHERE User r.ManagerId=:UserInfo.getUserId() ORDER BY
CreatedDate DESC];
           return myLeaves;
       } catch (Exception e) {
           throw new AuraHandledException(e.getMessage());
```

• Test Classes:

 Write test classes to ensure your trigger logic works correctly and meets the required code coverage.

Phase 6: User Interface Development

- **Goal**: Create a user-friendly front end with Lightning Web Components (LWC).
- LWC Development:
 - Build an LWC to display a list of an employee's leave requests using a
 - lightning-datatable.
 - Create another LWC for a custom form to submit a new leave request.



Apex with LWC:

- Use
 - @wire to reactively fetch an employee's leave history from an Apex controller.
- Use imperative Apex calls to submit new leave requests when the "Submit" button is clicked.

```
@AuraEnabled(cacheable=true)

public static List<LeaveRequest__c> getLeaveRequests() {

    try {

       List<LeaveRequest__c> myLeaves=new

List<LeaveRequest__c>();
```

• Lightning App Builder:

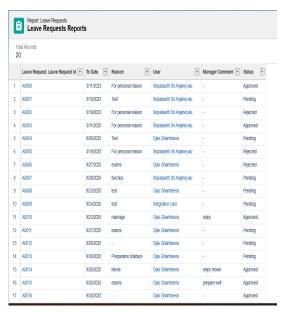
 Create a "Leave Tracker " app and add your custom LWC to a Lightning App Page or the Home Page.

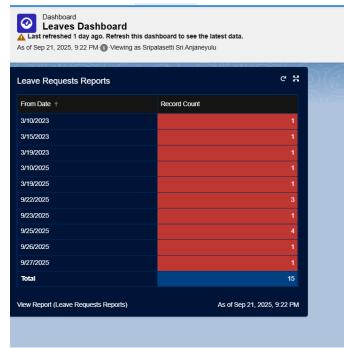
App Details & Branding Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar. App Details App Branding *App Name Leave Tracker App Description Leave_Tracker_App Description Use the app's image and color instead of the org's custom theme

New Lightning App

Phase 7: Reporting, Dashboards & Security

- Goal: Provide business insights and secure the application.
- Reports & Dashboards:
 - Create a report to show "Leave Requests by Status" (Pending, Approved, Rejected).
 - Build a dashboard for managers to visualize their team's upcoming leave.
 - Use a dynamic dashboard to show each manager only their own team's data.





Security:

- Use Field-Level Security to hide sensitive information from employees or managers.
- Set login IP ranges or hours if required by the company's policy.

Phase 8: Data Management & Deployment

- 1. Data Management
- Data Model Design
 - Custom Object: Leave_Request__c (to store leave applications).
 - Key Fields:
 - Employee Name (Lookup → User)
 - From Date
 - To Date
 - Reason
 - Status (Picklist: Pending, Approved, Rejected)
 - Manager Comment

```
import { api, LightningElement, wire } from 'lwc';
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import { ShowToastEvent } from 'lightning/platformShowToastEvent';
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import Id from '@salesforce/user/Id';
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const COLUMNS = [
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    { label: 'From Date', fieldName: 'From Date c', cellAttributes: {
class: { fieldName: 'cellClass' } } },
    { label: 'To Date', fieldName: 'To Date c', cellAttributes: { class:
{ fieldName: 'cellClass' } },
    { label: 'Reason', fieldName: 'Reason c', cellAttributes: { class: {
fieldName: 'cellClass' } } },
    { label: 'Status', fieldName: 'Status c', cellAttributes: { class: {
fieldName: 'cellClass' } } },
    { label: 'Manager Comment', fieldName: 'Manager Comment c',
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       type: "button", typeAttributes: {
           label: 'Edit',
           title: 'Edit',
           value: 'edit',
           disabled: { fieldName: 'isEditDisabled' }
        }, cellAttributes: { class: { fieldName: 'cellClass' } }
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   leavesReqeustsWireResult;
   showModalPopup = false;
   objectApiName = 'LeaveRequest c';
   recordId = '';
   currentUserId = Id;
   @wire(getLeaveRequests)
   wiredMyLeaves(result) {
       this.leavesRequustsWireResult = result;
       if (result.data) {
           this.leavesRequusts = result.data.map(a => ({
              userName: a.User r.Name,
              'slds-theme success' : a.Status c == 'Rejected' ? 'slds-theme warning' :
              isEditDisabled: a.Status c != 'Pending'
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           console.log('Error occured while fetching my leaves- ',
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get noRecordsFound() {
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   this.recordId = '';
popupCloseHandler() {
    this.showModalPopup = false;
rowActionHandler(event) {
    this.showModalPopup = true;
    this.recordId = event.detail.row.Id;
successHandler(event) {
    this.showModalPopup = false;
    this.showToast('Data saved successfully');
    this.refreshGrid();
```

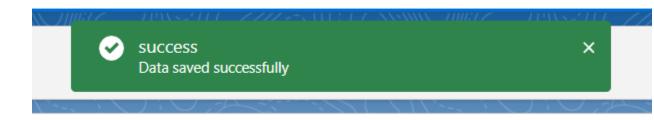
```
@api
refreshGrid() {
    refreshApex(this.leavesReqeustsWireResult);
showToast(message, title = 'success', variant = 'success') {
    const event = new ShowToastEvent({
        title,
        message,
        variant
    });
    this.dispatchEvent(event);
```

Data Security

 Applied Field-Level Security (FLS) to hide sensitive fields like Manager Comments from employees. Used Profiles & Permission Sets to restrict access (Employee vs Manager roles).

Data Loading

 Used Salesforce Data Import Wizard / Data Loader to upload sample employee and leave records for testing.



Data Validation

- Validation Rule: To ensure *From Date < To Date*.
- o Prevented overlapping leave requests for the same employee.



2. Deployment Process

- Development Environment
 - Built and tested the app in Salesforce Developer Org using VS Code + SFDX.

```
TYPE PROJECT PATH

Unchanged LeaveRequestSampleData ApexClass
force-app\main\default\classes\LeaveRequestSampleData.cls

Unchanged LeaveRequestSampleData ApexClass
force-app\main\default\classes\LeaveRequestSampleData.cls-meta.xml

Unchanged LeaveRequestController ApexClass
force-app\main\default\classes\LeaveRequestController.cls

Unchanged LeaveRequstController ApexClass
force-app\main\default\classes\LeaveRequstController.cls

Unchanged LeaveRequstController ApexClass
force-app\main\default\classes\LeaveRequstController.cls-meta.xml

21:25:00.752 Ended SFDX: Deploy This Source to Org

21:26:10.270 Starting SFDX: Deploy This Source to Org
```

• Change Set Deployment

- Created an Outbound Change Set with Apex Classes, LWC components, Custom Objects, and Profiles.
- Deployed the app to Test/Sandbox Org for UAT (User Acceptance Testing).

Testing

- Verified that leave requests can be created, approved, and tracked.
- Ensured UI works properly in Lightning App.
- Security testing for restricted fields.

Final Deployment

- Deployed to Production Org after successful UAT.
- Migrated sample data using Data Loader for initial setup.

Post-Deployment Activities

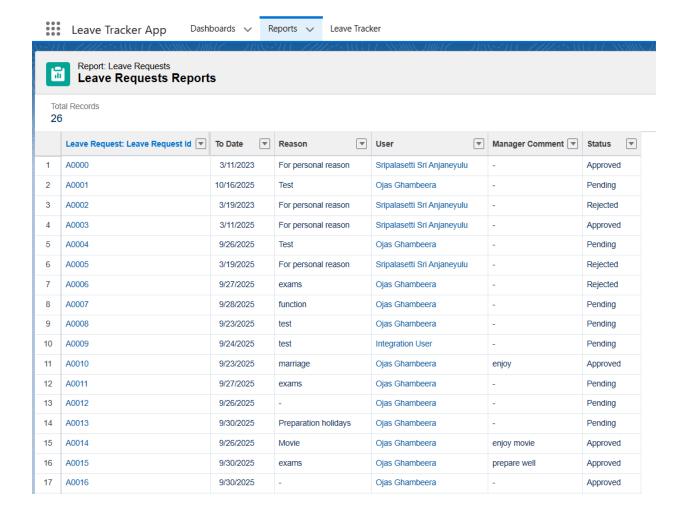
- Assigned app permission sets to employees and managers.
- Shared documentation and demo with users.

Phase 9: Reporting, Dashboards & Security Review

• **Goal:** Create a robust system for monitoring business insights and securing sensitive data.

• Reports:

- Create a report to track "Leave Requests by Status" (e.g., Pending, Approved, Rejected).
- Build a report on "Total Leave Taken by Employee" to help HR monitor leave balances.
- Create a "Departmental Leave Calendar" report to help managers visualize team availability.



• Report Types:

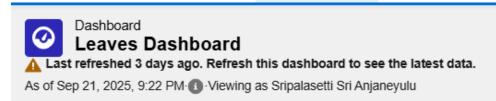
 Create a custom report type that joins the User object with the Leave_Request__c object.

• Dashboards:

 Build a "Manager's Leave Dashboard" that includes a pie chart of requests by status and a component showing upcoming leave.

• Dynamic Dashboards:

 Implement a dynamic dashboard for managers so that each manager only sees data for their direct reports.



eave Requests Reports		C 23
From Date ↑	Record Count	
3/10/2023		1
3/15/2023		1
3/19/2023		1
3/10/2025		1
3/19/2025		1
9/22/2025		3
9/23/2025		1
9/25/2025		4
9/26/2025		1
9/27/2025		1
Total		15

Phase 10: Final Presentation & Demo Day

Goal: Deliver the final product and prepare for a professional handoff.

• **Pitch Presentation**: Outline the initial business problem, the Salesforce LWC solution, and key benefits (time savings, accuracy, improved

visibility).

- **Demo Walkthrough**: Conduct a step-by-step demo:
 - 1. Employee submits a new leave request.
 - 2. Manager reviews and approves/rejects with notifications.
 - 3. Dashboard displays real-time team leave status.
- **Testing & Validation**: All workflows and automations were tested with sample data to confirm correctness and compliance with requirements.
- **Handoff Documentation**: Provide a comprehensive user guide (for employees/managers) and a technical guide (for admins/future developers).

Demo Video Link:

https://drive.google.com/file/d/1Eu2EwCYPHxUjq5PkXK0R2lyeG-rrKHm_/view?usp=drive_link

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