Salesforce-CRM-Leave-Management-App

Project Implementation Phases Documentation - HARSHIT S

Phase 1: Problem Understanding & Industry Analysis

Problem Statement

Traditional methods of managing employee leave, such as spreadsheets or email-based processes, are often inefficient, prone to error, and lack transparency. This can lead to administrative overhead for HR departments and a poor experience for employees. There is a clear need for a unified, secure, and automated system that provides real-time visibility and a seamless workflow for all stakeholders.

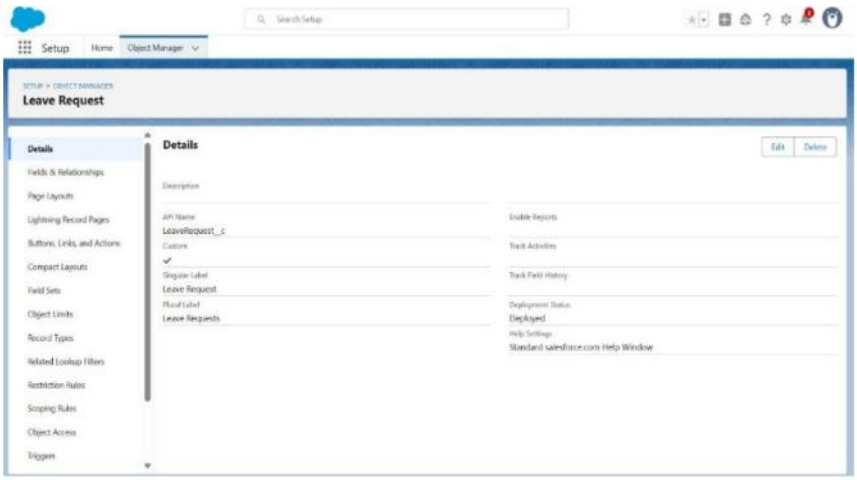
This initial phase is about defining the project's scope and goals.

- Requirement Gathering: This involves collecting all the business needs and desired features for the Leave Management App.
- Stakeholder Analysis: Identify all the individuals or groups who will be affected by the project, such as employees, managers, and HR staff.
- Business Process Mapping: Document the current process for managing leave requests, identifying any pain points or inefficiencies that the new app should address.
- Industry-specific Use Case Analysis: Investigate how other companies in your industry handle leave management.
- AppExchange Exploration: Search for existing leave management apps on the Salesforce AppExchange that could be used as a starting point or for inspiration.

Phase 2: Org Setup & Configuration

This phase focuses on setting up the Salesforce environment for the project.

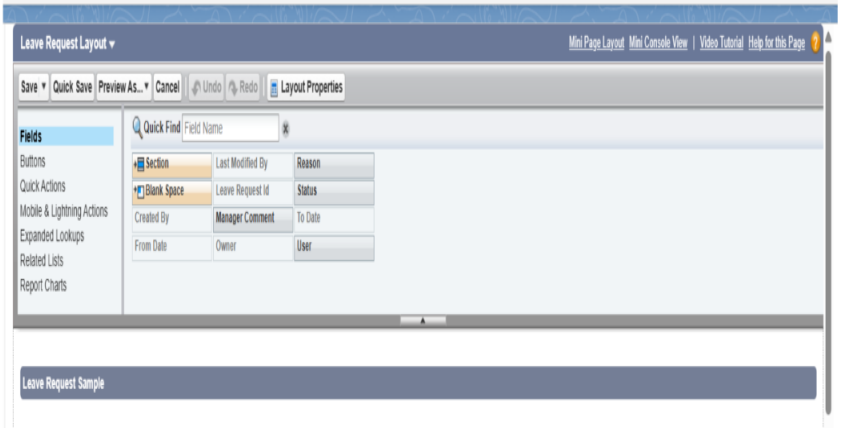
- Company Profile Setup: Configure your company's information in Salesforce.
- User Setup & Licenses: Create user accounts for everyone who will use the app and assign them the correct licenses.
- Profiles, Roles, & Permission Sets: Define the security and access levels for different users (e.g., distinguishing between an employee and a manager).
- Dev Org Setup & Sandbox Usage: Set up a development environment and a sandbox for testing and deployment.



Phase 3: Data Modelling & Relationships

In this phase, you will design the data structure for the Leave Management App.

- Standard & Custom Objects: You will create a custom object called Leave Request to store all the leave information.
- Fields: Add fields to the Leave Request object, such as From Date, To Date, Reason, and Status.
- Record Types & Page Layouts: Create different record types if needed and design the layout of the record pages to organize the fields effectively.
- Relationships: Establish a relationship (e.g., a lookup relationship) between the Leave



Phase 4: Process Automation (Admin)

This phase involves using Salesforce's declarative tools to automate business processes.

- Validation Rules: Create rules to ensure data quality, such as preventing users from submitting a leave request for a past date or with an invalid date range.

- Approval Process: Set up a process so that leave requests from employees are automatically routed to their manager for approval.
- Flow Builder: Use a Record-Triggered Flow to automatically update a leave request's status after it is approved or rejected.
- Email Alerts: Configure email alerts to notify employees when their leave request has been approved or rejected, and to notify managers of new requests.

Phase 5: Apex Programming (Developer)

- This phase focuses on developing the back-end business logic using Apex. The project includes Apex classes and triggers to handle complex business rules, perform data manipulation, and manage operations that are not possible with declarative tools alone.
- Apex Triggers & Design Patterns

Trigger Design:

- Single trigger per object (Trigger Handler Pattern).
- Delegates logic to a handler class → keeps trigger thin.
- Before Trigger Examples: Prevent overlapping leave requests for the same employee.
- After Trigger Examples: Send notification emails, update Leave Balance.
- Bulkification: All triggers written to handle bulk DML (up to 200 records at once).

Controller Classes

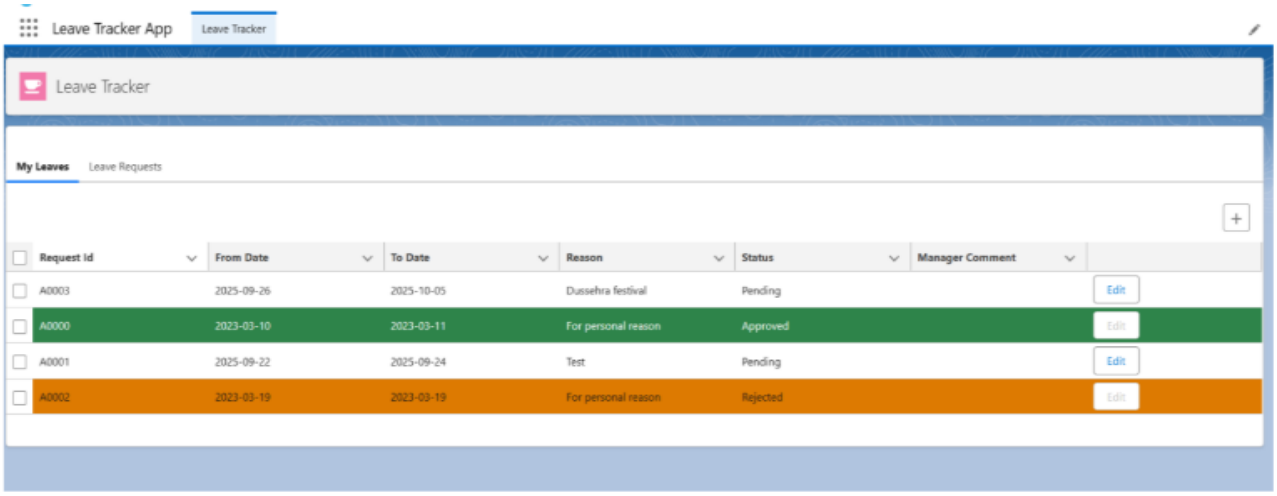
- Acts as a bridge between LWC and database operations.
- oUses @AuraEnabled methods for fetching employee leaves and manager approvals.

Phase 6: User Interface Development

This phase is all about building the front-end of the application.

- Lightning Web Components (LWC): Use LWC to build the custom user interface components, such as the My Leaves and Leave Requests tabs.
- Apex with LWC: Use wire adapters and imperative Apex calls to retrieve data from Salesforce and display it in your LWC components.

Lightning App Builder: Assemble your LWC components onto a custom app page using the Lightning App Builder to create the final user interface



Phase 7: Integration & External Access

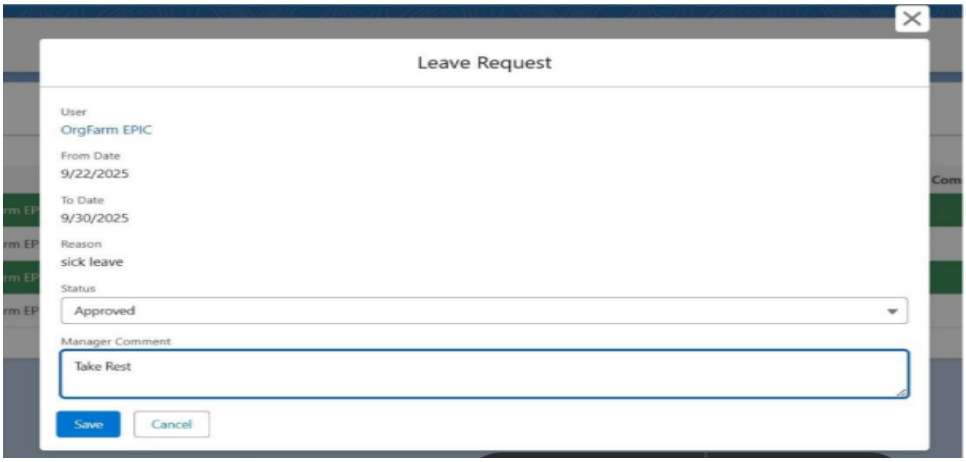
This phase is for connecting your app with external systems, if required.

- Web Services (REST/SOAP): If the app needs to interact with an external payroll system or calendar, you would use web services to send and receive data.
- Remote Site Settings & Named Credentials: Configure these to allow your Salesforce
- Data Table (LWC):
    - o Displays pending, approved, and rejected leave requests of subordinates.
    - o Columns → Employee Name, Leave Type, Start Date, End Date, Duration, Status, Manager Comments.

Filters & Search:

o Manager can filter by date range, leave type, or status.

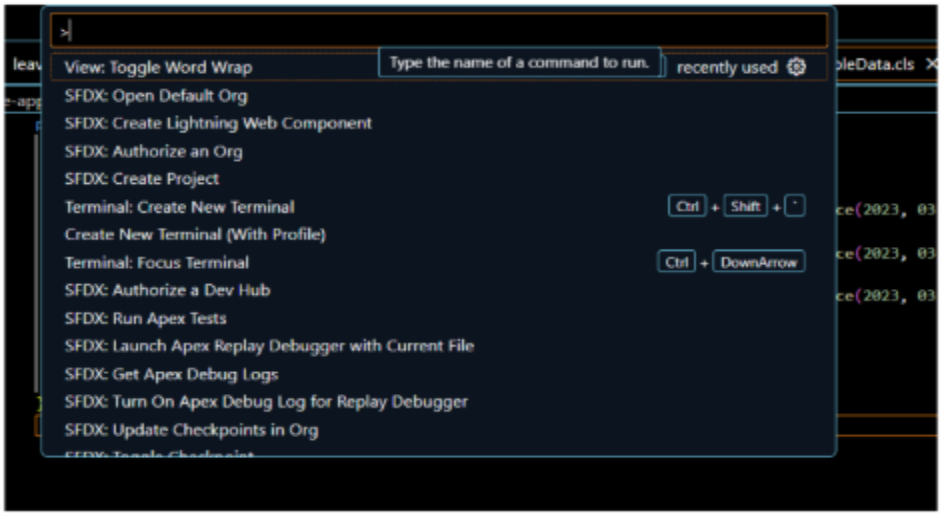
o Quick search bar for employee name/leave type.



Phase 8: Data Management & Deployment

This phase focuses on getting the application ready for a live environment.

- Data Loader: Use the Data Loader to import any existing leave data into your new Salesforce application.
- Change Sets & SFDX: Use either Change Sets or the SFDX command line interface with VS Code to deploy your new components from your development sandbox to a testing or production environment



Salesforce DX (SFDX):

- Modern DevOps tool with source-driven development.
- Enables scratch orgs, CI/CD pipelines, and modular deployments.

Phase 9: Reporting, Dashboards & Security Review

- This phase provides users with valuable insights into the leave data through custom Reports and Dashboards. Security is also configured at the object and field levels to ensure users only have access to the data they are authorized to see
- Dashboards & Dynamic Dashboards Visualized leave trends for managers.
- Reports & Report Types Created tabular, summary, matrix, and joined reports for HR tracking.
- Sharing Settings, Field Level Security, Session Settings, Login IP, Audit Trail Reviewed and
- configured to maintain security and compliance.