Phase 8: Data Management & Deployment

Objective:

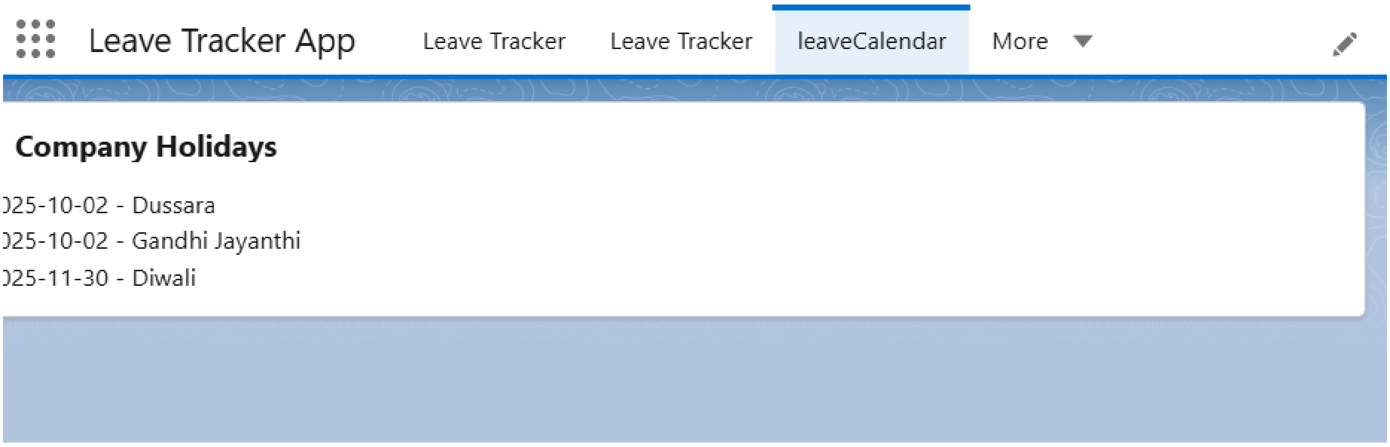
To ensure smooth and error-free deployment of Leave Tracker customizations from development to higher environments (UAT, Production) using best practices and tools.

Data Import Wizard

- Used to load initial employee data (Users, basic LeaveRequest__c records).
- Supports CSV files.
- Best for small/medium data volumes (< 50,000 records).

Calendar:

- Google Calendar / Outlook Tab: Embed or sync employee calendars inside Salesforce.
- Purpose: Employees can see leave requests alongside their personal/work calendar to avoid conflicts.

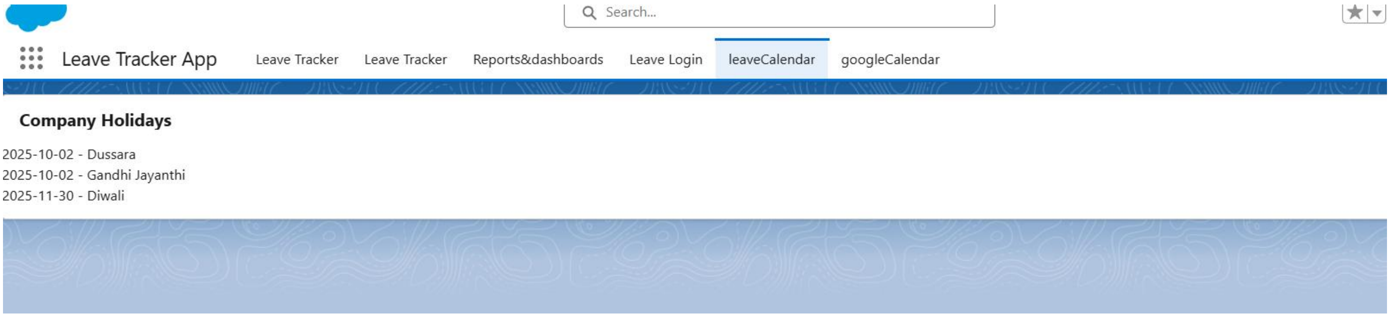


Company Holidays

)25-10-02 - Dussara
)25-10-02 - Gandhi Jayanthi
)25-11-30 - Diwali

API-Based Integrations (Advanced)

- Google Calendar API / Microsoft Graph API: Automatically push approved leaves to external calendars using Apex or middleware.
- Purpose: Real-time syncing of leave events with company calendars.

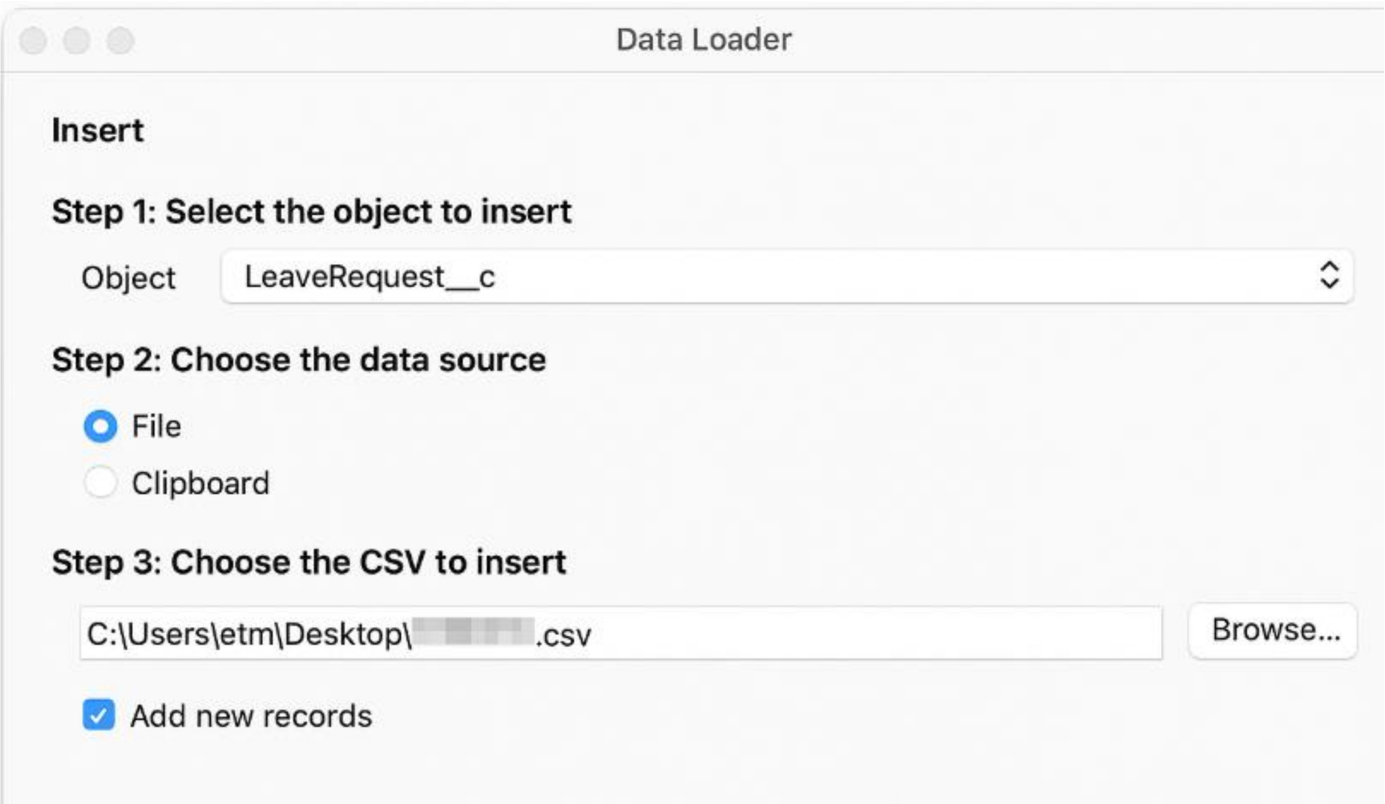


Company Holidays

2025-10-02 - Dussara
2025-10-02 - Gandhi Jayanthi
2025-11-30 - Diwali

Data Loader

- Used to perform bulk operations (insert, update, delete, upsert) for large datasets.
- Example: Bulk upload of historical leave records.
- Supports command-line interface for automation.



Insert

Step 1: Select the object to insert

Object LeaveRequest__c

Step 2: Choose the data source

● File

○ Clipboard

Step 3: Choose the CSV to insert

C:\Users\etm\Desktop\[redacted].csv

☑ Add new records

Change Sets

Used Change Sets for deploying metadata between environments (Sandbox → Production).

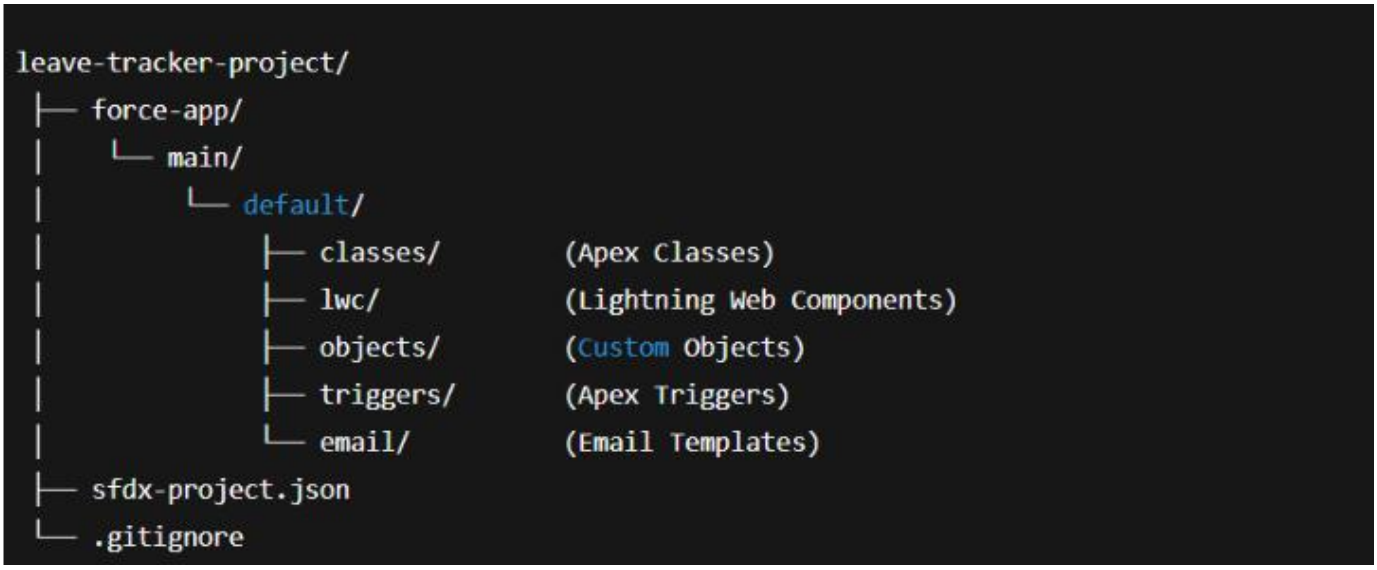
Included:

- Custom Objects (LeaveRequest__c)
- Apex Classes (LeaveRequestController, Triggers)
- Lightning Web Components (applyLeave, myLeaves, leaveRequest)
- Email Templates & Flows

VS Code Deployment Setup

Prerequisites

- Install Visual Studio Code.
- Install Salesforce CLI (SFDX).
- Install Salesforce Extension Pack in VS Code.
- Connect Org → sfdx force:auth:web:login -d -a DevHub.
- Sample Project Structure (VS Code)



```
leave-tracker-project/
 ├── force-app/
 │    └── main/
 │         └── default/
 │              ├── classes/        (Apex Classes)
 │              ├── lwc/            (Lightning Web Components)
 │              ├── objects/        (Custom Objects)
 │              ├── triggers/       (Apex Triggers)
 │              └── email/          (Email Templates)
 ├── sfdx-project.json
 └── .gitignore
```

- Retrieve metadata from source org
  - sfdx force:source:retrieve -m ApexClass,CustomObject,LWC
- Deploy metadata to target org
  - sfdx force:source:deploy -p force-app/main/default
- Run all tests before deployment
  - sfdx force:apex:test:run --resultformat human --codecoverage

Deployment Checklist

- Code Quality Check (PMD, Prettier for LWC).
- Apex Test Coverage ≥ 75%.
- Run Validation Deployment (test without committing).
- Backup Production metadata before final push.
- Post-deployment steps (activate Flows, verify Email Deliverability).

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