

## Expense Tracker (Phase 4)

### Goal:

The goal of this project is to build a **Salesforce-based Expense Tracker** that automates the management of employee expenses. It streamlines expense submission, approvals, and notifications, reducing manual effort and delays. Automated alerts, reminders, and updates improve communication between employees, managers, and finance teams. Overall, the system enhances efficiency, accuracy, and reporting, ensuring smooth expense management within the organization.

### Problem Statement:

Organizations face challenges in tracking and approving employee expenses due to manual processes. This leads to delays, errors, and poor visibility of spending patterns. A Salesforce-based Expense Tracker automates expense submissions, approvals, reminders, and reporting, ensuring faster processing, better control, and accurate records.

### Phase 4: Process Automation (Admin)

**Phase 4 focuses on Process Automation in Salesforce. Various automation tools such as Validation Rules, Workflow Rules, Approval Processes, Email Alerts, and Field Updates were implemented to streamline expense management.**

### Validation Rules

Validation rules ensure data accuracy and integrity:

- Prevent negative values in the **Amount** field.
- Ensure correct email format for employees.
- Require that **Expense Date** cannot be a future date.

```

2  <LightningComponentBundle xmlns="http://soap.sforce.com/2006/04/metadata"
5      <targets>
7          <target>lightning__RecordPage</target>
8          <target>lightning__HomePage</target>
9          <target>lightningCommunity__Page</target>
10         <target>lightningCommunity__Default</target>
11         <target>lightning__FlowScreen</target>
12     </targets>
13     <targetConfigs>
14         <targetConfig targets="lightning__FlowScreen">
15             <property name="startDate" label="Start Date" type="Date" r
16             <property name="account" label="Account Chosen" type="@sale:
17             <property name="annualRevenue" label="Annual Revenue" type='
18             <property name="name" label="Account Name" type="String" />
19         </targetConfig>
20     </targetConfigs>
21 </LightningComponentBundle>
22

```

The screenshot shows a web form titled "Display Expense Summary". It contains two date input fields. The first field, labeled "Start Date", has the value "01-Sept-2018". The second field, labeled "End Date", has the value "18-Sept-2024". Both fields have a calendar icon to their right. At the bottom right of the form is a blue button labeled "Next". The form is set against a light blue background with a subtle pattern.

## Workflow Rules

Workflow rules were set up to automate repetitive tasks:

- Send email alerts when a new expense is submitted.
- Notify managers when an expense requires approval.

- Update fields such as **Approval Status** automatically after submission.

The image shows the Salesforce Flow Builder 'Select Type' screen and a VS Code terminal window.

**Select Type Screen:**

- Recommended:**
  - Screen Flow** (selected): Guides users through a business process that's launched from Lightning pages, Experience Cloud sites, quick actions, and more.
  - Record-Triggered Flow**: Launches when a record is created, updated, or deleted. This autolaunched flow runs in the background.
  - Schedule-Triggered Flow**: Launches at a specified time and frequency for each record in a batch. This autolaunched flow runs in the background.
  - Platform Event—Triggered Flow** (selected): Launches when a platform event message is received. This autolaunched flow runs in the background.
  - Autolaunched Flow (No Trigger)**: Launches when invoked by Apex, processes, REST API, and more. This autolaunched flow runs in the background.
  - Record-Triggered Orchestration**: Launches when a record is created or updated. An orchestration lets you create a multi-step, multi-user process.
- All Flow Types:**
  - Autolaunched Flow (No Trigger)**: Launches when invoked by Apex, processes, REST API, and more. This autolaunched flow runs in the background.
  - Autolaunched Orchestration (No Trigger)**: Launches when invoked by Apex, REST API, and more.

**VS Code Terminal:**

```
force-app > main > default > lwc > expensesChartjs > expensesChartjs.js-meta.xml > LightningComponentBundle > targetConfigs
2  <LightningComponentBundle xmlns="http://soap.sforce.com/2006/04/metadata">
5    <targets>
7      <target>lightning__RecordPage</target>
8      <target>lightning__HomePage</target>
9      <target>lightningCommunity__Page</target>
10     <target>lightningCommunity__Default</target>
11     <target>lightning__FlowScreen</target>
12  </targets>

```

**OUTPUT:**

```
force-app\main\default\lwc\expensesChartjs\expensesChartjs.html
Created expensesChartjs LightningComponentBundle
force-app\main\default\lwc\expensesChartjs\expensesChartjs.js
Created expensesChartjs LightningComponentBundle
force-app\main\default\lwc\expensesChartjs\expensesChartjs.js-meta.xml
17:52:30.706 ended SFDX: Deploy This Source to Org

```

**POSTMAN CONSOLE:**

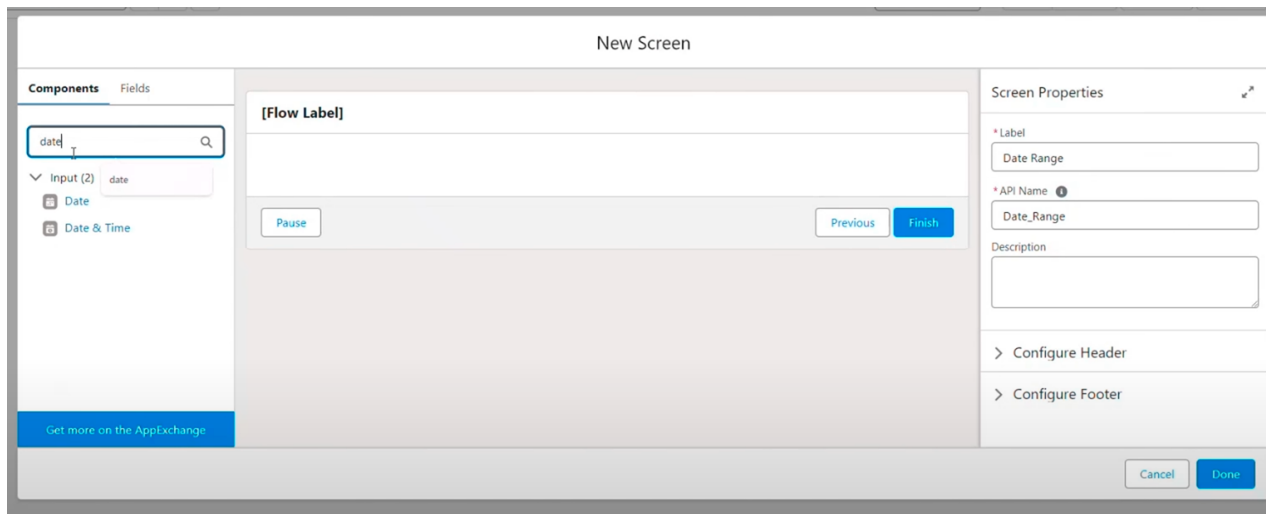
```
SFDX: Deploy This Source to Org successfully ran
Source: Salesforce CLI Integration
Show Show C

```

## Approval Process

An approval process was created for high-value expenses:

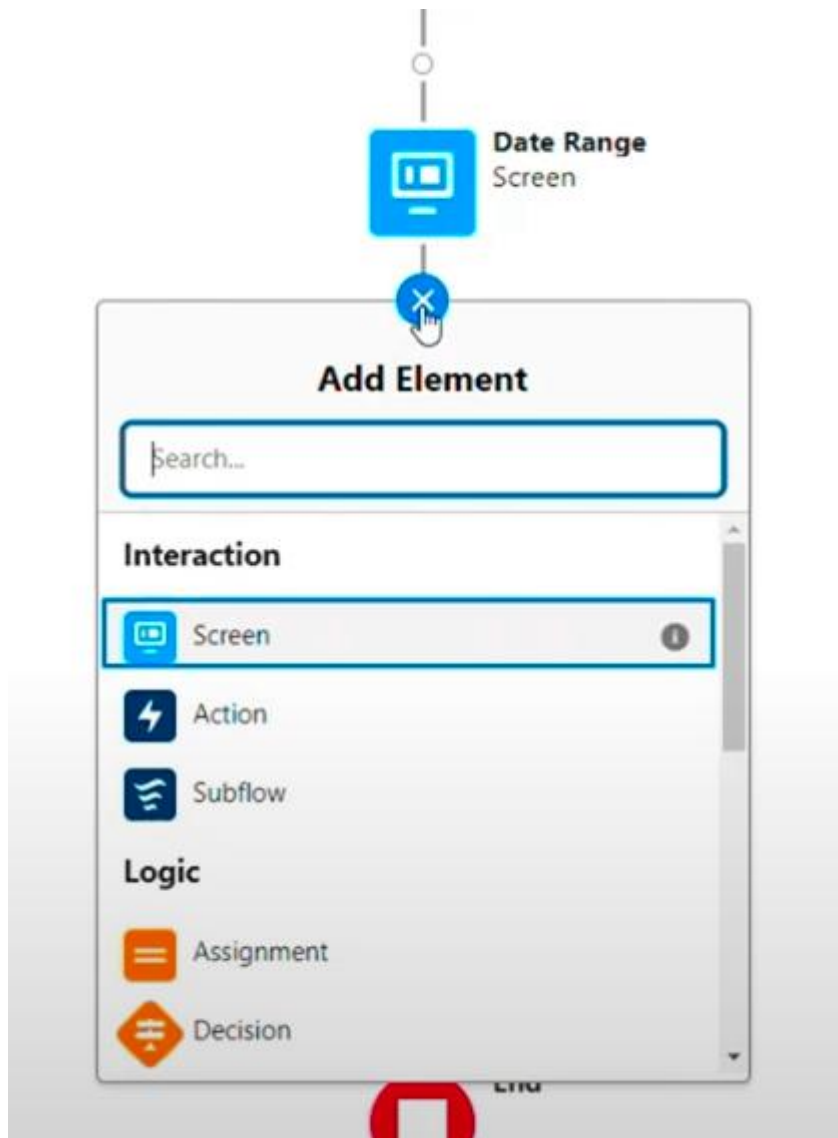
- Expenses above a certain amount are routed to managers for approval.
- Only after approval, the expense is marked as **Approved** in the system.
- Ensures proper authorization and accountability.



## Email Alerts

Email alerts improve communication between employees, managers, and finance:

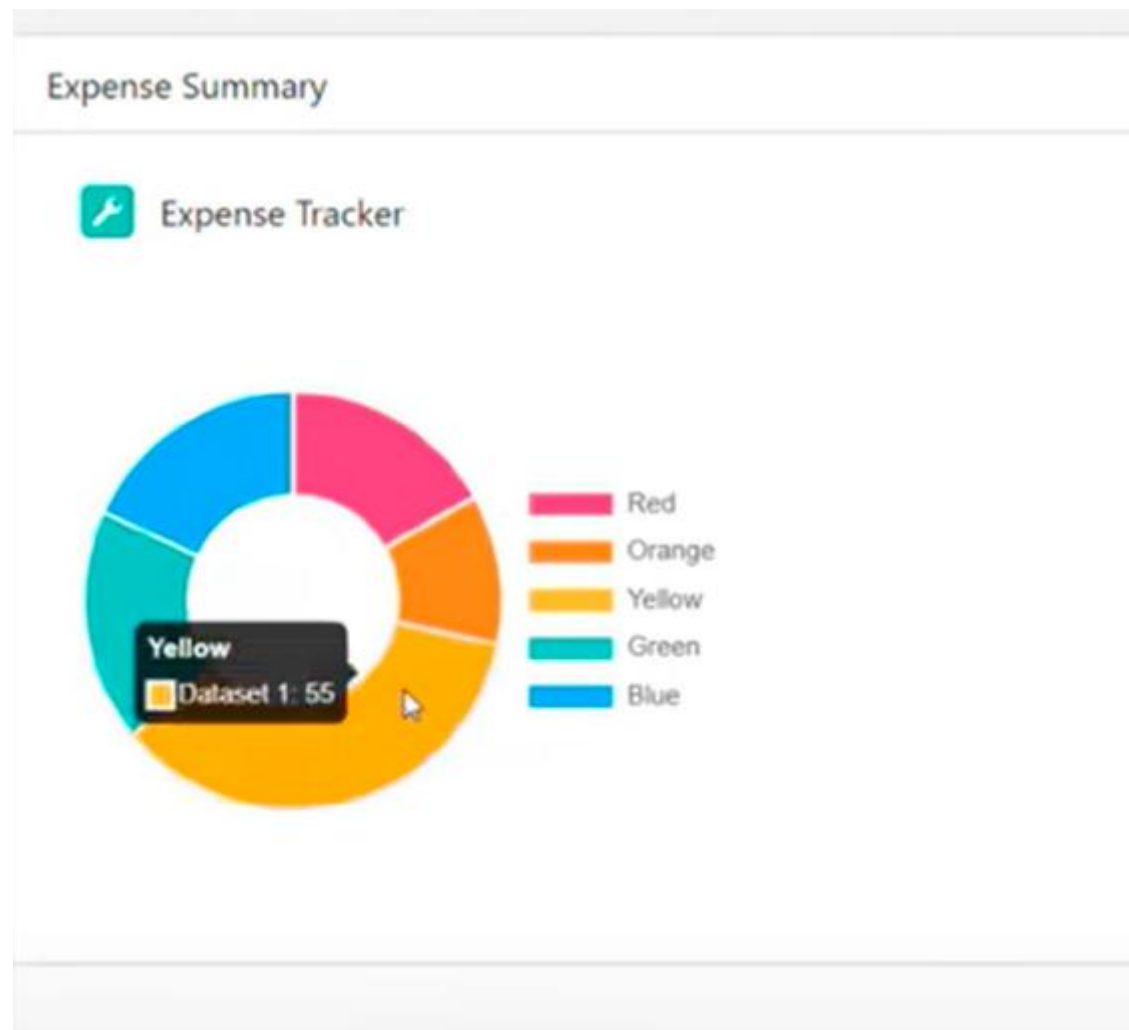
- Submission confirmation emails sent automatically to employees.
- Managers receive notifications for pending approvals.
- Finance teams are notified once expenses are approved for reimbursement.



## Field Updates

Field updates keep records accurate and up-to-date:

- Automatically update **Approval Status** after manager action.
- Update **Payment Status** once reimbursement is processed.
- Adjust **Remaining Amount** dynamically if partial payments are made.



## Conclusion

Phase 4 successfully automated the **expense management process**. Validation rules ensured data accuracy, workflow rules reduced manual effort, approval processes streamlined high-value approvals, email alerts improved communication, and field updates maintained accurate records. This phase enhanced **efficiency, accuracy, and reliability** of the Salesforce Expense Tracker.