Salesforce Expense Request Approval Process Setup Document
Prepared By: Shaik Javeed Ahammad
Project Title: Salesforce Expense Request Approval Process Setup
Date: September 15, 2025

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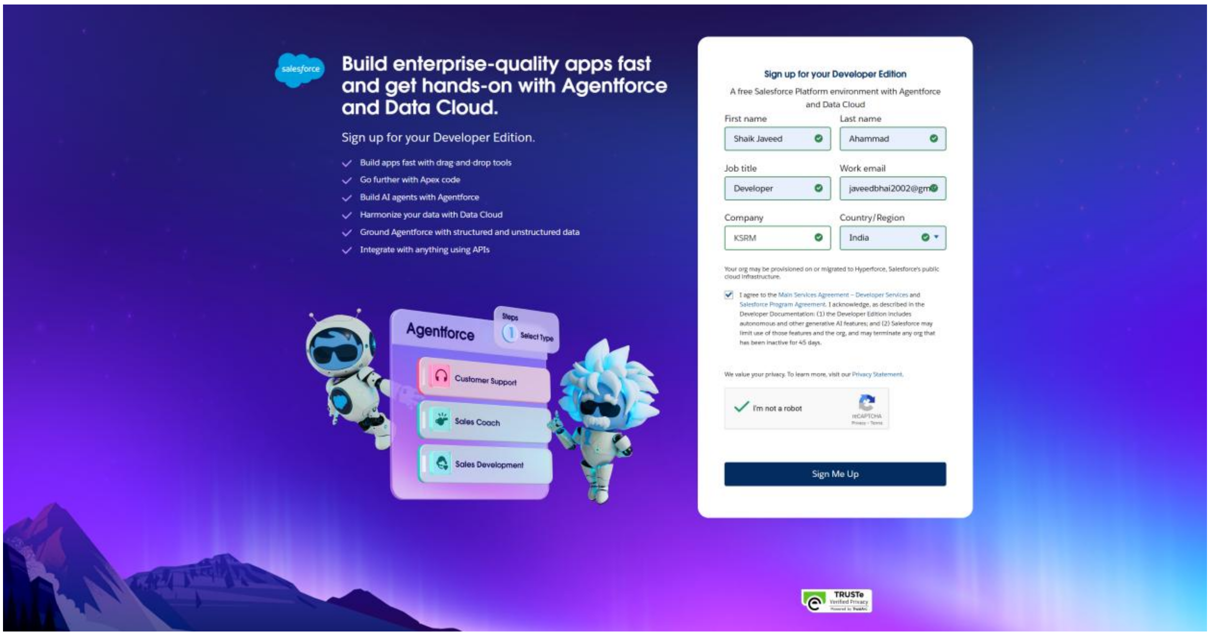
1. Salesforce Org Preparation

- Sign up for a Salesforce Developer Edition org, or log in to your company's sandbox/production environment.
- Confirm that your user profile or assigned permission set includes "System Administrator" or the required permissions to create objects, fields, and automation.
- (Optional) Enable Lightning Experience for a modern interface and enhanced usability.

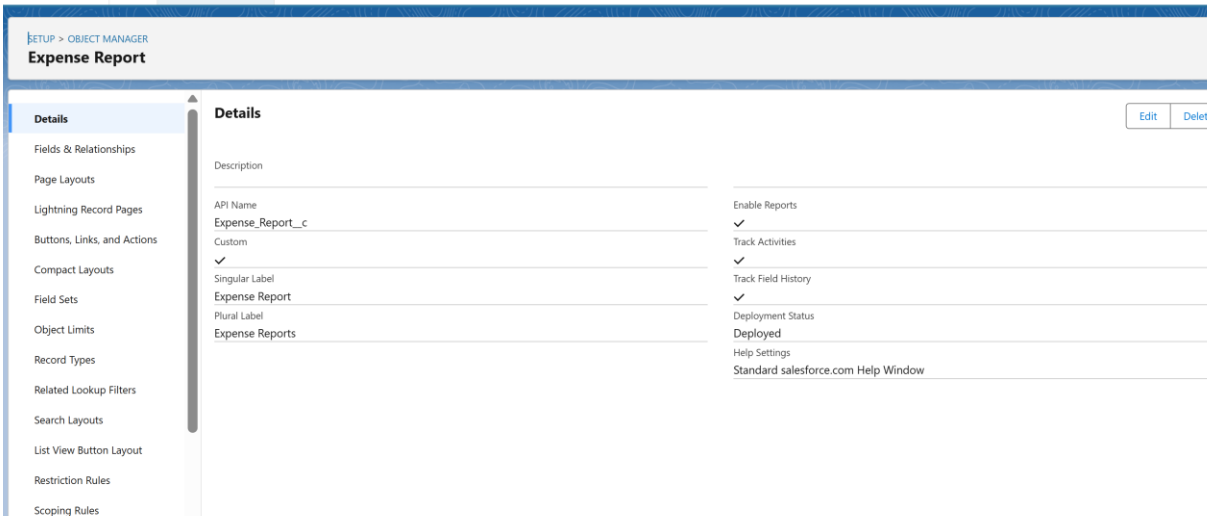


2. Create Custom Objects

Expense Report

- Path: Setup → Object Manager → Create → Custom Object
- Label: Expense Report
- Plural Label: Expense Reports

- Object Name: Expense_Report__c
- Record Name: Auto Number (Format: ER-{00000})
- Options: Enable for Reports, Activities, and Lightning Experience



Expense Item

- Path: Setup → Object Manager → Create → Custom Object
- Label: Expense Item
- Plural Label: Expense Items
- Object Name: Expense_Item__c
- Record Name: Auto Number (Format: EI-{00000})
- Relationship: Master-Detail with Expense Report (parent)

3. Custom Fields on Expense Report

- **Submitter**: Lookup (User) → identifies the user submitting the report.
- **Status**: Picklist → Draft, Submitted, Approved, Rejected, Returned.
- **Total Amount**: Currency → Roll-up summary of related Expense Item amounts.
- **Start Date / End Date**: Date → span of expenses.
- **Submitted Date**: Date/Time → tracks when report enters approval process.
- **Description / Notes**: Long Text Area → stores additional details.
- **Approved By**: Lookup (User) → captures final approver.

4. Custom Fields on Expense Item

- **Type**: Picklist → Travel, Lodging, Meals, Other.
- **Amount**: Currency.
- **Expense Date**: Date.
- **Description**: Long Text Area.
- **Expense Report**: Master-Detail → links to parent Expense Report.

5. Roll-Up Summary on Expense Report

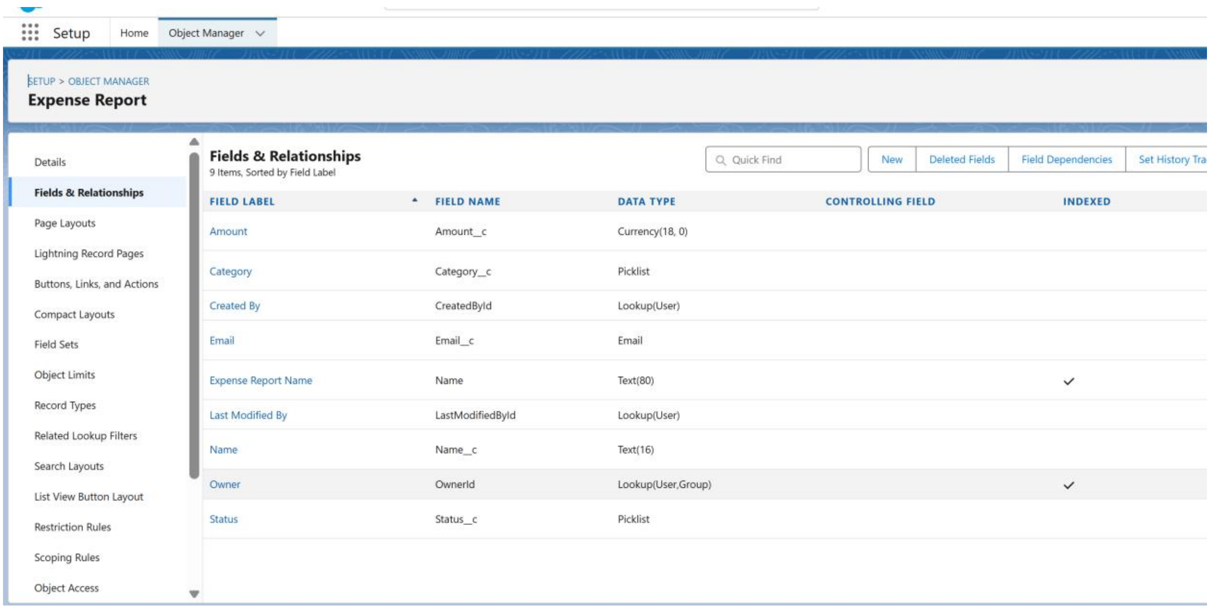
- Field: **Total Amount**
- Summarized Object: Expense Item
- Roll-Up Type: SUM of Amount field

6. Create Tabs

- Path: Setup → Tabs → Custom Object Tabs → New
- Create **Expense Report** tab
- Create **Expense Item** tab
- Assign tab styles and adjust visibility for selected profiles

7. Next Steps (Optional)

- Configure approval processes to automate routing and notifications.
- Add validation rules to maintain data quality.
- Customize page layouts and Lightning record pages for better user experience.
- Define permissions and sharing settings by role or profile.
- Build reports and dashboards for tracking expense submissions and approvals.

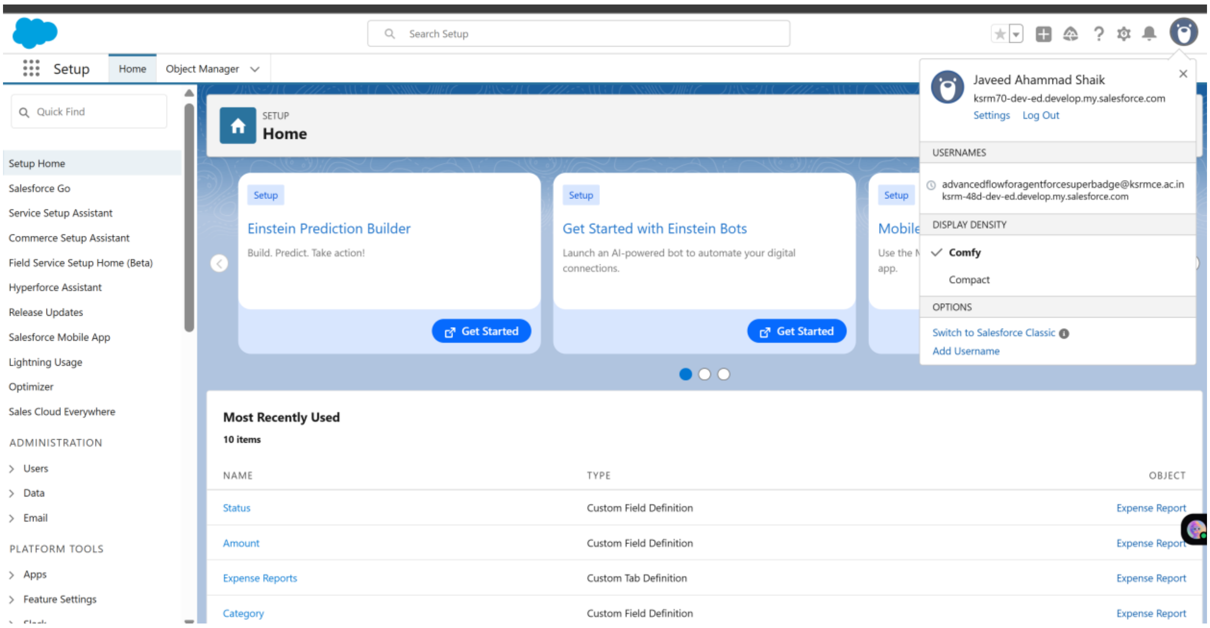

Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Expense Report
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Scoping Rules
Object Access
Fields & Relationships
9 Items, Sorted by Field Label
Quick Find
New
Deleted Fields
Field Dependencies
Set History Tra
FIELD LABEL
FIELD NAME
DATA TYPE
CONTROLLING FIELD
INDEXED
Amount
Amount__c
Currency(18, 0)
Category
Category__c
Picklist
Created By
CreatedById
Lookup(User)
Email
Email__c
Email
Expense Report Name
Name
Text(80)
Last Modified By
LastModifiedById
Lookup(User)
Name
Name__c
Text(16)
Owner
OwnerId
Lookup(User,Group)
Status
Status__c
Picklist

ExpenseFlow: Expense Request Approval Automator **Name: Shaik Javeed Ahammad**

Phase 2: Org Setup & Configuration

1. Salesforce Org Creation

- Signed up for a free Salesforce Developer Edition org to serve as the primary development and testing environment.
- Verified login and navigation to the **Setup** menu.



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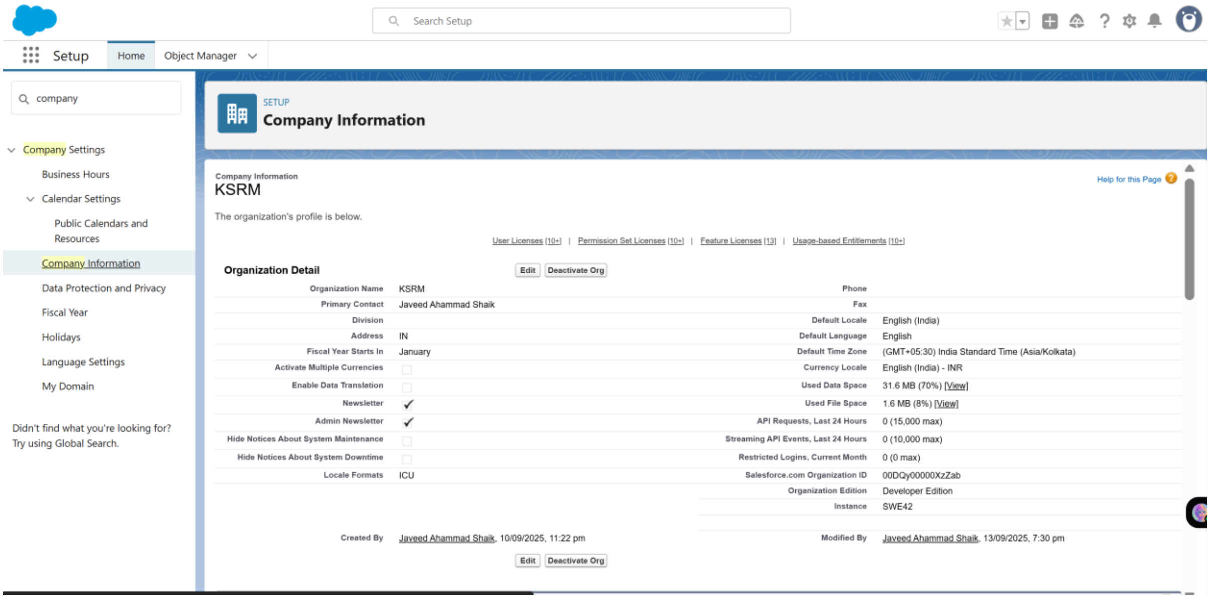
2. Company Profile Setup

- Updated the Company Name to *ExpenseFlow: Expense Request Approval Automator*.
- Configured the **Time Zone** to (GMT+05:30) India Standard Time.
- Set the **Default Currency** to INR – Indian Rupee (₹).



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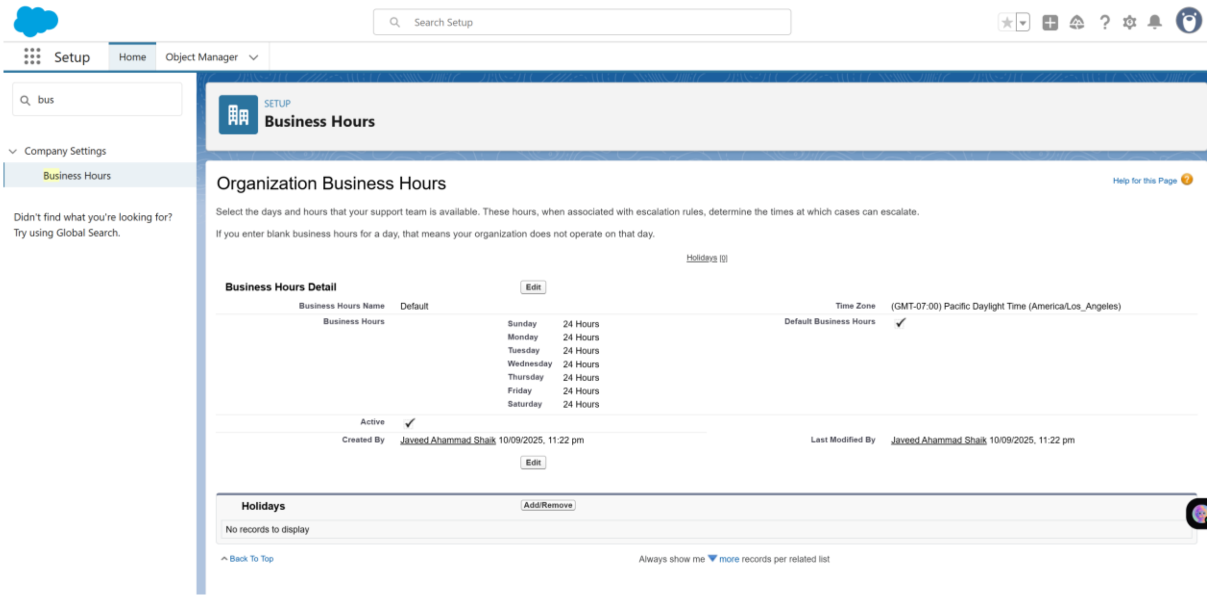
3. Business Hours & Holidays

- Created a new business hours set named **Expense Approval Hours**, covering 12:00 AM to 12:00 AM.
- Added key organizational holidays (e.g., Independence Day, Republic Day) for accurate approval timelines.



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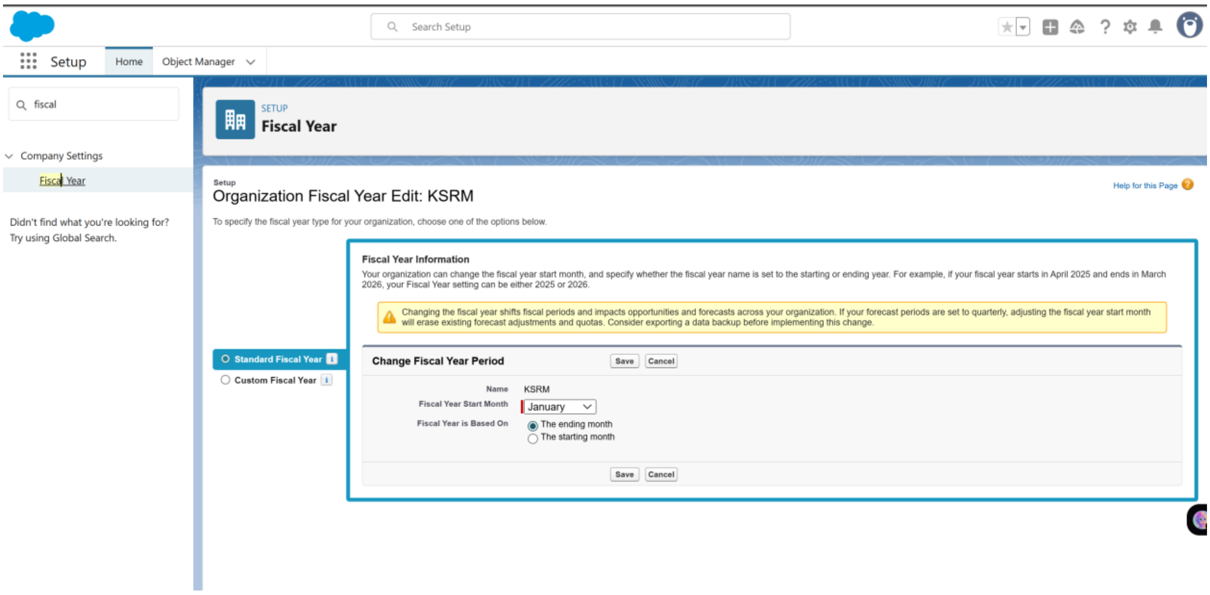
4. Fiscal Year Settings

- Selected the **Standard Fiscal Year**, starting in January.
- Ensures financial reports and dashboards align with the calendar year (Jan–Dec).



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5. User Setup & Licenses

- Created three test users for role-based scenarios:
    - **Admin User**: Full system access and configuration.
    - **Manager User**: For approving employee expense requests.
    - **Employee User**: For submitting expense requests.
- Assigned Salesforce licenses to each user and mapped them to their respective roles.

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6. Profiles

- Customized profiles based on responsibilities:
    - **Employee Profile**: Granted *Read, Create, and Edit* permissions on the Expense Request and Expense Item objects
    - **Manager Profile**: Granted *Read, Create, Edit, and Approve* permissions, with visibility to employee records.
    - **Admin Profile**: Full system access (default).

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7. Roles

- Established a role hierarchy:
  - **Manager → Employee**
- This ensures managers can view and approve records created by employees reporting to them.

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8. Permission Sets

- Created permission sets for flexibility:
  - **Expense Request Submitter**: Grants additional create permissions for employees.
  - **Expense Approver**: Grants approval-related permissions for managers.

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9. Org-Wide Defaults (OWD)

- Configured default record access:
  - Expense Request = **Private**
  - Expense Item = **Controlled by Parent**
  - User = **Private**

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10. Sharing Rules

- Implemented role-based sharing:
  - **Manager Access**: Managers automatically gain read/write access to their team's Expense Requests.
  - **Finance Collaboration**: Sharing rule to allow finance role users to view and update all expense requests for auditing.

Phase 3 – Salesforce Expense Report Approval Process Name: Shaik Javeed Ahammad

1.Introduction The purpose of Phase 3 is to implement and document the Approval Process for Expense Reports in Salesforce. In earlier phases, we created the Expense_Report__c object, added the required fields, and configured basic layouts. Phase 3 focuses on introducing automation, decision-making, and approvals using Flows and Approval Processes.

By the end of this phase, the system will be capable of automatically approving smaller expense reports while routing larger ones for manual approval by a manager. This ensures efficiency, compliance, and reduced workload for approvers.

2. Objectives

• Automate the approval process of expense reports.

• Define thresholds to decide between automatic and manual approvals.

• Reduce manual intervention for low-value expenses.

• Improve tracking and transparency of expense approvals.

3. Scope of Work This phase deals with:

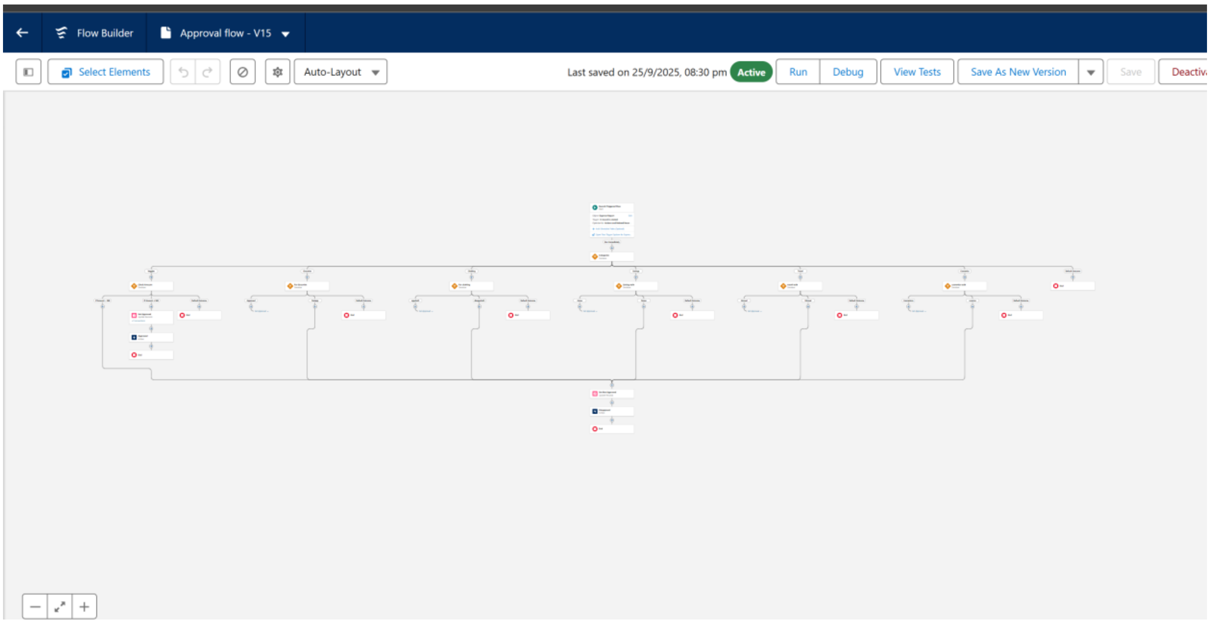
• Creating a record-triggered flow that runs when an expense report is submitted.

• Implementing decision logic to check the amount.

• Automatically updating the status for expenses ≤ 500.

• Submitting the record for manager approval if the amount exceeds 500.

• Testing with real records and verifying notifications.



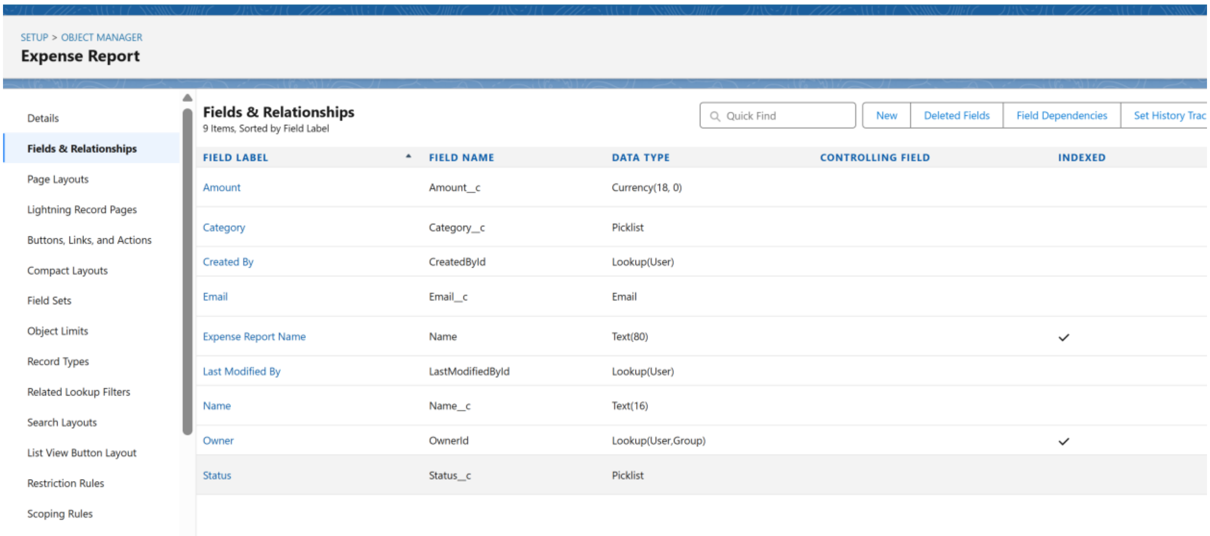
4. Pre-Requisites Before implementing Phase 3, the following should already exist:

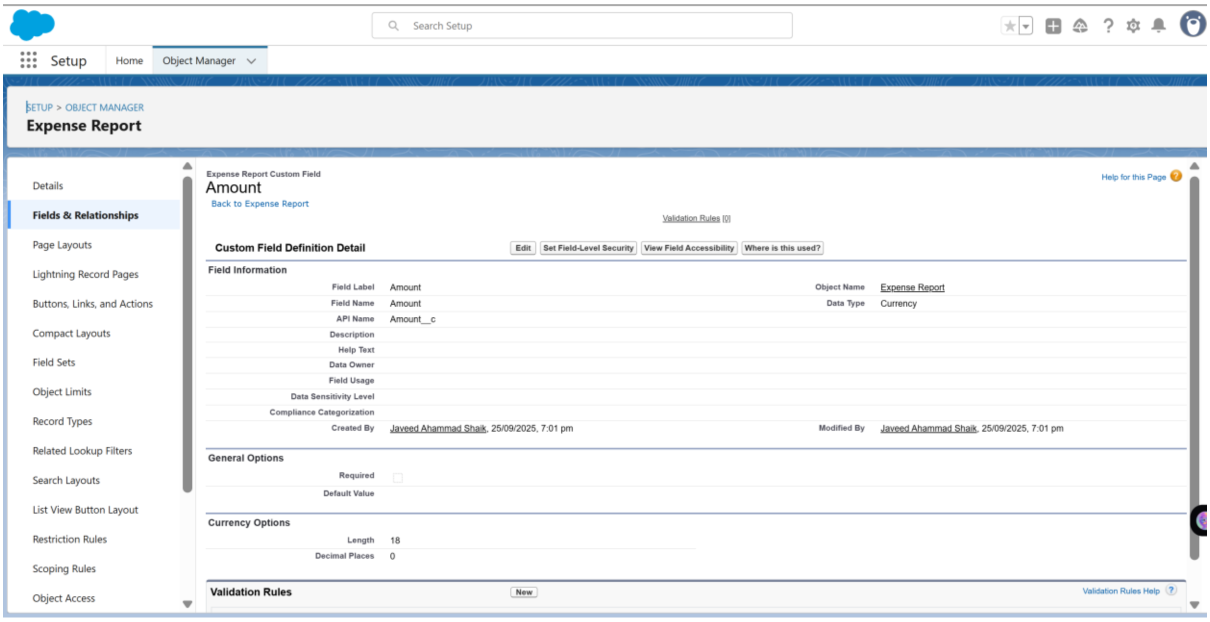
1. Custom Object: Expense_Report__c o Amount__c (Currency/Number) Status__c (Picklist → Submitted, Approved, Rejected, Pending)

2. User Setup o Employee (creates expense report) Manager (approves expense report) Admin (for monitoring/testing)

3. Approval Hierarchy

Manager role assigned as approver for amounts greater than 500.





5. Process Architecture The process can be divided into the following stages:

1. Trigger: Expense Report submitted (Status = Submitted).

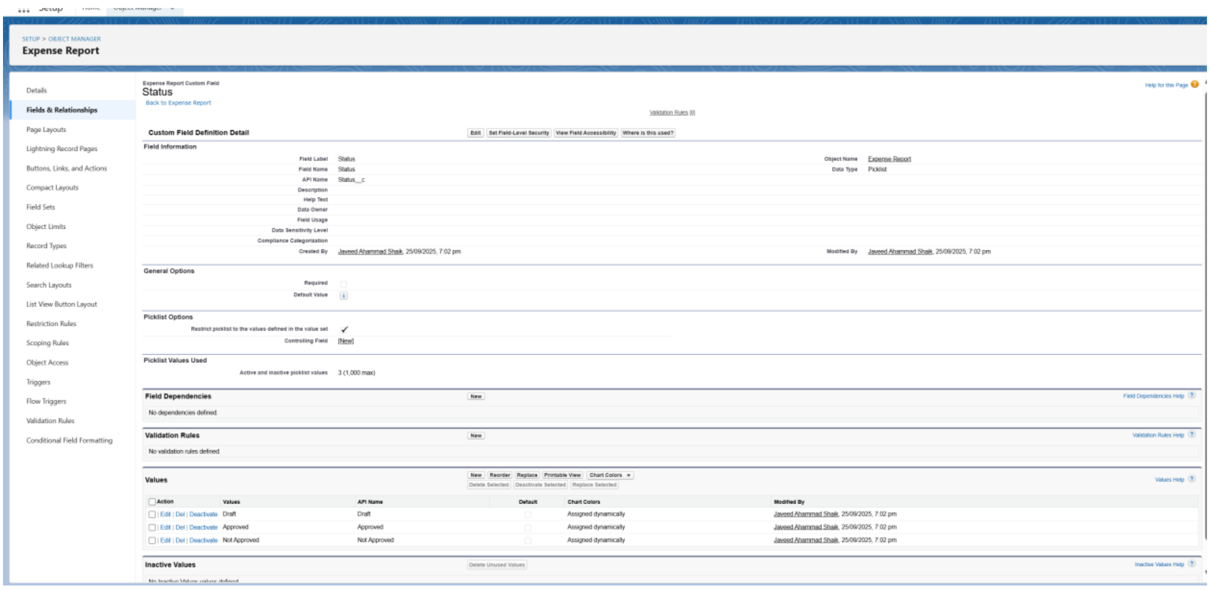
2. Decision Point: Flow checks value of Amount__c. If Amount ≤ 500 → Auto-approval. If Amount > 500 → Route for Manager approval.

3. Actions:

Update record status.

Launch approval request.

4. Outcome: Record gets approved or rejected, based on rules.



6. Implementation Steps

Step 1 – Create Flow

• Go to Setup → Flows → New Flow.

• Select Record-Triggered Flow.

• Object: Expense_Report__c.

• Trigger: A record is created or updated.

• Entry Criteria: Status__c = 'Submitted'.

Step 2 – Add Decision Element

• Add a Decision Element to check the expense amount.

• Paths: Auto Approval: Amount__c ≤ 500

Manager Approval: Amount__c > 500

Step 3 – Configure Actions

• For Auto Approval: Add Update Records element.

Set Status__c = 'Approved'.

• For Manager Approval: Add Submit for Approval action. Input: Record ID = $Record.Id. This triggers the approval process configured in Salesforce.

Step 4 – Save & Activate Flow

• Name the Flow: Expense Report Approval Flow.

• Activate it.

7. Testing Plan

Test Case 1 – Auto Approval

• Input: Amount__c = 300, Status__c = Submitted.

• Expected: Record status changes to Approved automatically.

• Result: Verified → Pass.

Test Case 2 – Manager Approval

• Input: Amount__c = 1200, Status__c = Submitted.

• Expected: Approval request goes to Manager, who can approve/reject.

• Result: Verified → Pass.

Test Case 3 – Edge Case

• Input: Amount__c = 500.

• Expected: Falls under auto-approval.

• Result: Verified → Pass.

8. Validation

• Check the Approval History related list on the record.

• Verify email notifications sent to approvers.

• Confirm that records don’t get stuck in Pending status.

• Ensure audit logs reflect approval flow execution.

9. Outcomes

• Expense reports ≤ 500 no longer need manual approvals.

• Managers only receive requests for significant amounts (> 500).

• Approval process is faster, transparent, and audit-friendly.

Phase 4 – Salesforce Expense Report Multi-Level Approval Process

Name: Shaik Javeed Ahammad

1.Introduction Phase 3 introduced the foundation of the approval process by handling automatic approvals for smaller expenses and routing larger ones to managers. However, in a real-world corporate environment, the approval process is rarely limited to just one level. Large organizations require multi-layer approval structures to ensure financial accountability, compliance with company policies, and protection against fraudulent claims.

Phase 4 addresses this by extending the approval mechanism into a multi-level process that escalates approvals based on the amount submitted. It also introduces notifications, validation rules, and analytics dashboards to improve user experience and reporting. This makes the system robust, scalable, and aligned with enterprise-level expense management needs.

2. Objectives

• To create a multi-tier approval chain that handles expenses based on value thresholds.

• To implement automatic notifications for both employees and approvers at every stage.

• To enforce policy compliance by introducing mandatory receipt uploads.

• To provide real-time monitoring through reports and dashboards.

• To reduce administrative delays by ensuring that expense reports are routed to the correct level without manual intervention.

3. Scope This phase focuses on four major enhancements:

1. Multi-level approval process configuration.

2. Email alerts and notifications for status tracking.

3. Validation rules to enforce company policies.

4. Reports and dashboards for improved financial visibility.

4. Approval Hierarchy In Phase 4, we introduce a tiered approval mechanism:

• Level 1 (Auto Approval): Any expense report with Amount__c ≤ 500 is automatically approved by the system without requiring human intervention.

• Level 2 (Manager Approval): Expense reports where 500 < Amount__c ≤ 5000 are routed to the Manager role for review.

• Level 3 (Director Approval): Expense reports where 5000 < Amount__c ≤ 20000 are routed to the Director for review and approval.

• Level 4 (CFO/Finance Approval): High-value expense reports where Amount__c > 20000 are routed to the CFO or Finance Head, ensuring financial oversight at the highest level.

This structured hierarchy ensures that small expenses are processed quickly while large expenses undergo rigorous review.

5. Implementation Steps

Step 1 – Extend Flow with Multi-Level Approvals The Phase 3 flow is enhanced to include additional Decision branches:

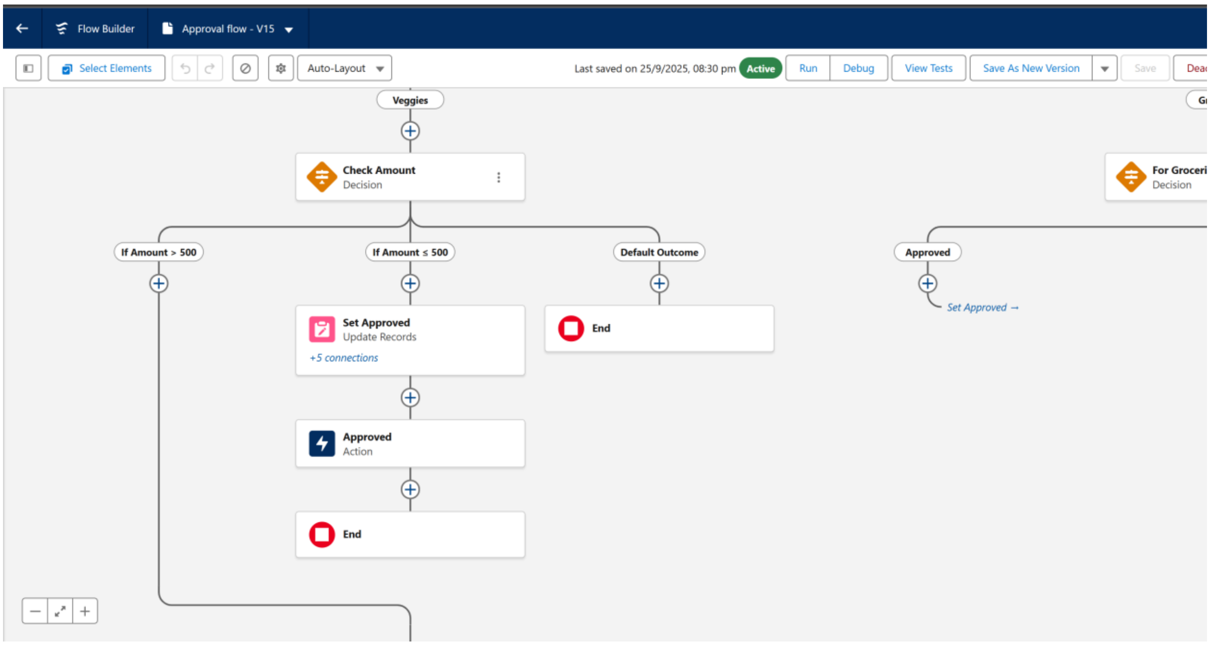
• Auto Approval → If Amount ≤ 500 → Update record to Approved.

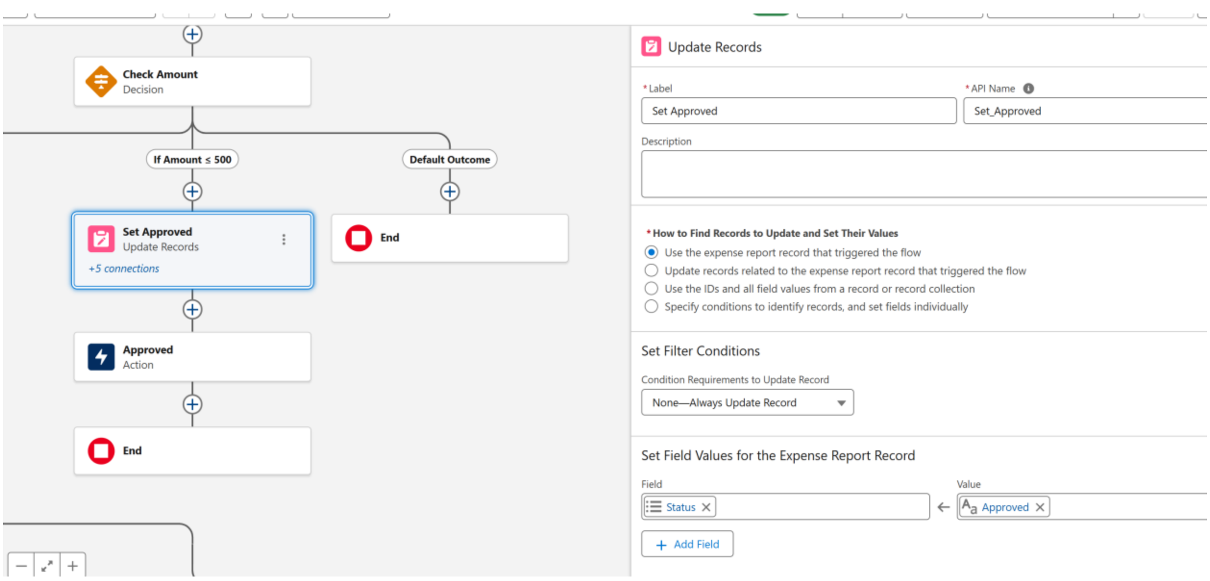
• Manager Approval → If 500 < Amount ≤ 5000 → Submit for Manager Approval.

• Director Approval → If 5000 < Amount ≤ 20000 → Submit for Director Approval.

• CFO Approval → If Amount > 20000 → Submit for CFO Approval.

Each branch is connected to its own Submit for Approval Action that references the appropriate Approval Process.





Step 2 – Create/Modify Approval Processes Approval processes are created for each approver role. Each process contains:

• An entry criteria (based on amount range).

• An assigned approver (Manager, Director, CFO).

• Actions upon approval (status = Approved).

• Actions upon rejection (status = Rejected).

These processes ensure that each request follows the appropriate approval path.

Step 3 – Configure Email Notifications

Communication is a critical part of any approval system. Email alerts are configured for the following:

• When an employee submits an expense report → Notification confirming submission.

• When a request is assigned to an approver → Notification sent to the approver.

• When a report is approved/rejected → Notification sent back to the employee.

• Optional reminder notifications can also be configured for pending approvals after a defined time frame.

Step 4 – Add Validation Rules

To ensure compliance, validation rules are added.

For example:

1. Receipt Required:

2. AND(Amount__c > 500, ISBLANK(Receipt__c))

→ Ensures that any expense above 500 must have a receipt attached.

3. Valid Status Submission:

Ensures that expense reports can only be submitted if the Status__c field is set to "Submitted".

These rules reduce the risk of incomplete or non-compliant expense submissions.

Step 5 – Reports and Dashboards

To provide visibility into the process, several reports are created:

• Expense Reports by Status → Tracks how many reports are Approved, Pending, or Rejected.

• Expenses by Amount Range → Segments expenses into categories (20000).

• Pending Approvals by Approver → Helps managers and directors monitor their workload. These reports are added to a dashboard for executives, giving them a consolidated view of expense management in real-time.

6. Testing Plan The process is tested through a series of cases:

• Case 1 (Auto Approval): Submit an expense of 300. Expected result → Auto approved instantly.

•Case 2 (Manager Approval): Submit an expense of 1500. Expected result → Routed to Manager, employee notified.

• Case 3 (Director Approval): Submit an expense of 8000. Expected result → Routed to Director, approval history updated.

• Case 4 (CFO Approval): Submit an expense of 25,000. Expected result → Routed to CFO, no bypass possible.

• Case 5 (Validation Rule): Submit 2000 without attaching a receipt. Expected result → Error message displayed, record not submitted.

All test results are logged and verified against expected outcomes.

7. Outcomes

• Expense approval process now supports complex, multi-level decision-making.

• Employees are kept informed at every step through notifications.

• Approvers have visibility into pending requests and can act quickly.

• Validation rules ensure compliance and data accuracy.

• Reports and dashboards give executives a clear picture of organizational spending.

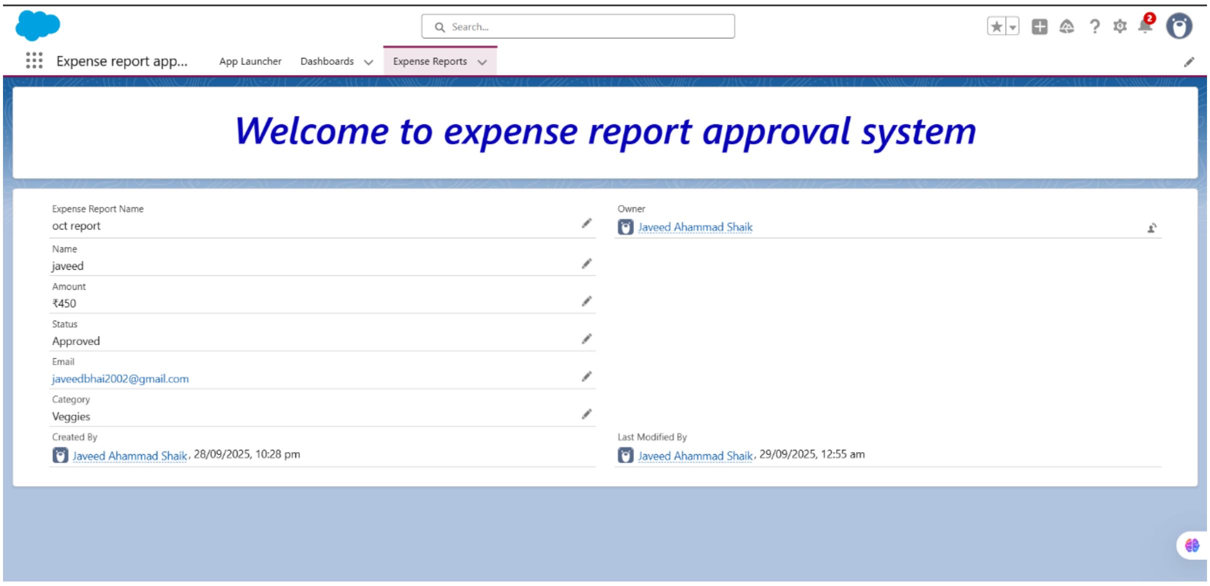
This phase significantly improves the efficiency and reliability of the system, making it enterprise-ready

Phase 5: Apex Programming (Developer)

Name: Shaik Javeed Ahammad

1.Introduction Up to Phase 4, the Salesforce Expense Report system successfully automated multi-level approvals and introduced notifications, validation, and dashboards. However, modern organizations expect more than just structured approvals—they demand real-time communication, mobile accessibility, and intelligent monitoring of financial activities.

Phase 5 focuses on transforming the existing approval process into a smarter, more collaborative, and proactive system. By integrating with platforms like Slack or Microsoft Teams, employees and managers will no longer be limited to emails for communication. Instead, they will receive instant notifications and be able to take action directly within the messaging platform.



In addition, approvals are extended to the Salesforce Mobile App, giving managers the ability to review receipts and approve or reject expense reports while on the move. Escalation rules are introduced to ensure that no report is left pending indefinitely, while artificial intelligence (AI) capabilities are leveraged to detect anomalies or fraudulent claims. Predictive dashboards are also implemented to provide executives with foresight into upcoming expense trends, helping them make proactive financial decisions.

2. Objectives

The main goals of Phase 5 are as follows:

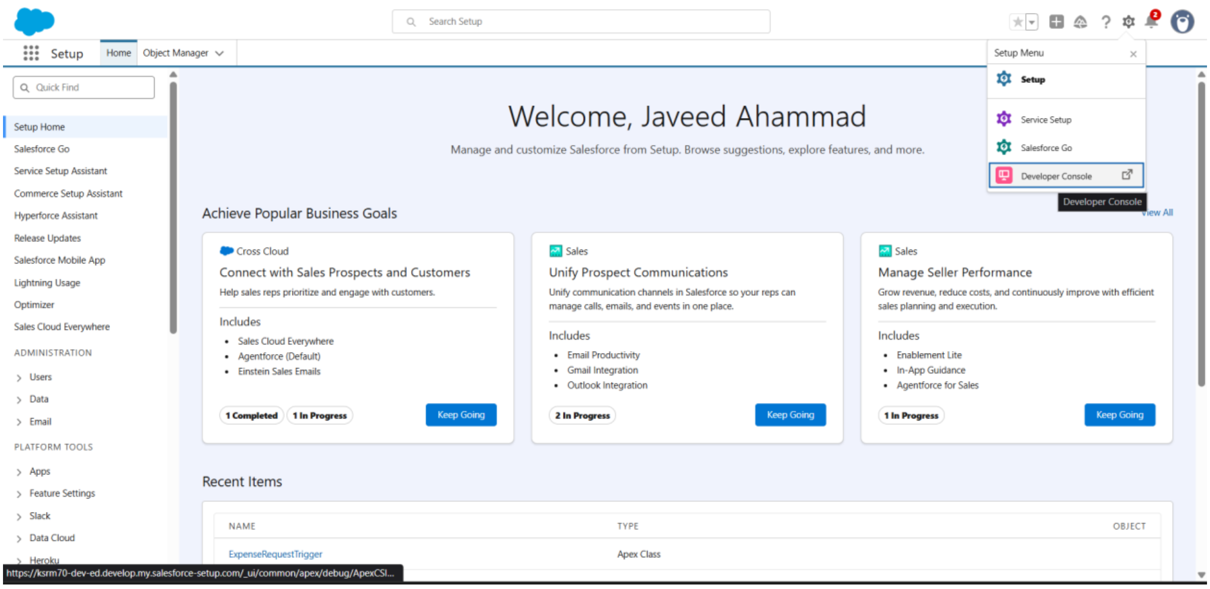
• Provide seamless integration with collaboration tools so that employees and managers can interact with the system in real-time without switching between platforms.

• Empower managers with mobile-first approval workflows, allowing them to process approvals quickly, even outside of office environments.

• Introduce escalation rules that automatically reassign pending approvals to higher authorities if they remain unattended for too long.

• Use AI and machine learning to analyze spending patterns and detect anomalies that could indicate fraud, errors, or policy violations.

• Extend the reporting capability from being purely descriptive (showing what happened) to being predictive (forecasting what might happen).



3. Scope

This phase covers the enhancement of the approval process by:

1. Connecting Salesforce with collaboration platforms such as Slack or Microsoft Teams.

2. Configuring the Salesforce Mobile App to support expense approvals through quick actions and push notifications.

3. Defining escalation paths to ensure timely approval of expense reports.

4. Incorporating Einstein Discovery or external machine learning services to detect unusual expense claims.

5. Expanding dashboards to display predictive analytics and anomaly scores for more informed decision-making.

4. Implementation Steps

Step 1 – Integration with Collaboration Tools Salesforce provides connectors and APIs to integrate with popular messaging tools like Slack and Microsoft Teams. When this integration is set up, the workflow changes significantly:

• As soon as an employee submits an expense report, a Slack or Teams message is sent confirming that the submission has been logged.

• The assigned approver immediately receives a notification in Slack or Teams that contains the key details of the expense report, such as the employee name, the amount, and the receipt (if attached).

• Instead of logging into Salesforce, the approver can simply click an Approve or Reject button directly in the message. This drastically reduces delays because approvals can now be completed from within the tool that employees and managers are already using throughout the day.

ExpenseRequestTrigger.apxc * | ExpenseLineItemHandler.apxc

Code Coverage: None | API Version: 64

```
class ExpenseLineItemTrigger on Expense_Line_Item__c (after insert, after update, after
delete) {
    Set<Id> reportIds = new Set<Id>();

    if(Trigger.isInsert || Trigger.isUpdate) {
        for(Expense_Line_Item__c item : Trigger.new) {
            reportIds.add(item.Expense_Report__c);
        }
    }
    if(Trigger.isDelete) {
        for(Expense_Line_Item__c item : Trigger.old) {
            reportIds.add(item.Expense_Report__c);
        }
    }

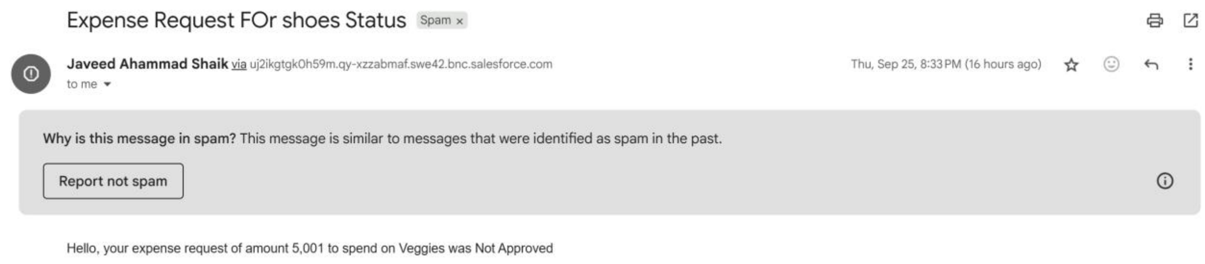
    if(!reportIds.isEmpty()) {
        ExpenseLineItemHandler.updateTotal(reportIds);
    }
}
```

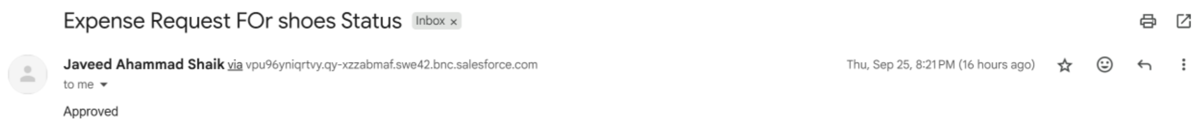
Step 2 – Mobile Approvals

Modern organizations cannot rely solely on desktop workflows. Managers and directors often travel or work remotely, and waiting for them to return to a laptop can delay critical f inancial operations. To resolve this, the Salesforce Mobile App is configured with Quick Actions for approvals. With these actions enabled:

•Approvers can view all details of an expense report on their phone.

• They can tap Approve or Reject without opening the full Salesforce desktop site.





• Push notifications are enabled so that managers are instantly alerted whenever a new approval is pending. This feature makes the approval system location-independent and ensures that no expense is left waiting simply because an approver is away from their desk.

Step 3 – Escalation Rules One major risk in approval workflows is that a request can get stuck if the assigned approver forgets or delays action. To address this, Salesforce escalation rules and time-dependent workflows are introduced.

For example:

• If a manager does not act on an expense report within 48 hours, the request is automatically reassigned to the Director.

• If the Director does not act within 72 hours, it is escalated further to the CFO or Finance Head. This escalation path ensures accountability and prevents bottlenecks. The employee is also notified when escalation happens, which provides transparency and reassures them that their request is not being ignored.

Step 4 – AI/ML Anomaly Detection Fraud detection and anomaly detection are becoming essential in financial systems. By integrating Salesforce Einstein Discovery or a connected machine learning model, the system can automatically evaluate expense data to flag unusual reports. Some examples of anomalies that can be detected include:

• Employees submitting expenses that are consistently just below the approval threshold (e.g., always at 4,999 when the threshold is 5,000).

• Duplicate claims where the same receipt is uploaded multiple times.

• Abnormally high spending frequency by certain employees compared to their peers. When flagged, these reports are routed to a special manual review queue so that the f inance team can investigate further. This adds a layer of intelligence to the system, ensuring that it not only processes approvals but also guards against misuse.

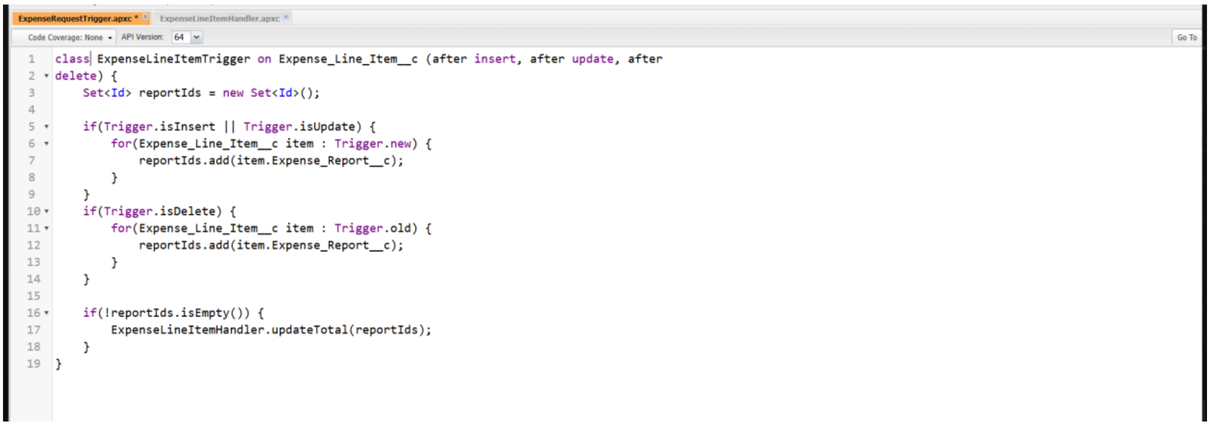
Step 5 – Predictive Dashboards Dashboards are extended beyond simple reporting. With Einstein Analytics, predictive features are added:

• Predicted Expense Trends: Forecasts how much expense is expected in the next quarter, based on historical data.

• Anomaly Score Dashboards: Assigns a probability score to each report, indicating how likely it is to be fraudulent.

• Escalation Reports: Shows how many reports required escalation, highlighting possible workload or compliance issues.

Executives and finance leaders can use these dashboards not just to monitor the present but also to anticipate future challenges.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Code Coverage: None API Version: 64

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        for(Expense_Line_Item__c item : Trigger.new) {
            reportIds.add(item.Expense_Report__c);
        }
    }
    if(Trigger.isDelete) {
        for(Expense_Line_Item__c item : Trigger.old) {
            reportIds.add(item.Expense_Report__c);
        }
    }

    if(!reportIds.isEmpty()) {
        ExpenseLineItemHandler.updateTotal(reportIds);
    }
}
```

5. Testing Plan Testing for Phase 5 enhancements involves multiple scenarios:

1. Submitting expense reports and verifying Slack/Teams notifications.

2. Approving or rejecting directly through messaging platforms.

3. Approving via the Salesforce Mobile App and checking push notifications.

4. Deliberately delaying approvals to confirm that escalation rules reassign the requests.

5. Inserting test data with duplicate or suspicious expense claims to see if the anomaly detection system flags them correctly.

6. Validating that dashboards display predictive insights alongside real-time data.

Each test case is documented with inputs, expected outcomes, and actual results.

6. Outcomes

The enhancements in Phase 5 transform the Salesforce Expense Report Approval system into a collaborative, mobile, and intelligent platform.

Managers no longer need to rely only on email notifications, as approvals can now happen instantly in Slack, Teams, or on mobile devices. Escalation rules prevent requests from being lost or delayed, ensuring timely processing.

AI-driven anomaly detection brings a layer of financial security and compliance, protecting organizations from fraudulent or risky claims.

Dashboards provide not only current insights but also predictive forecasts, enabling finance leaders to make proactive decisions.

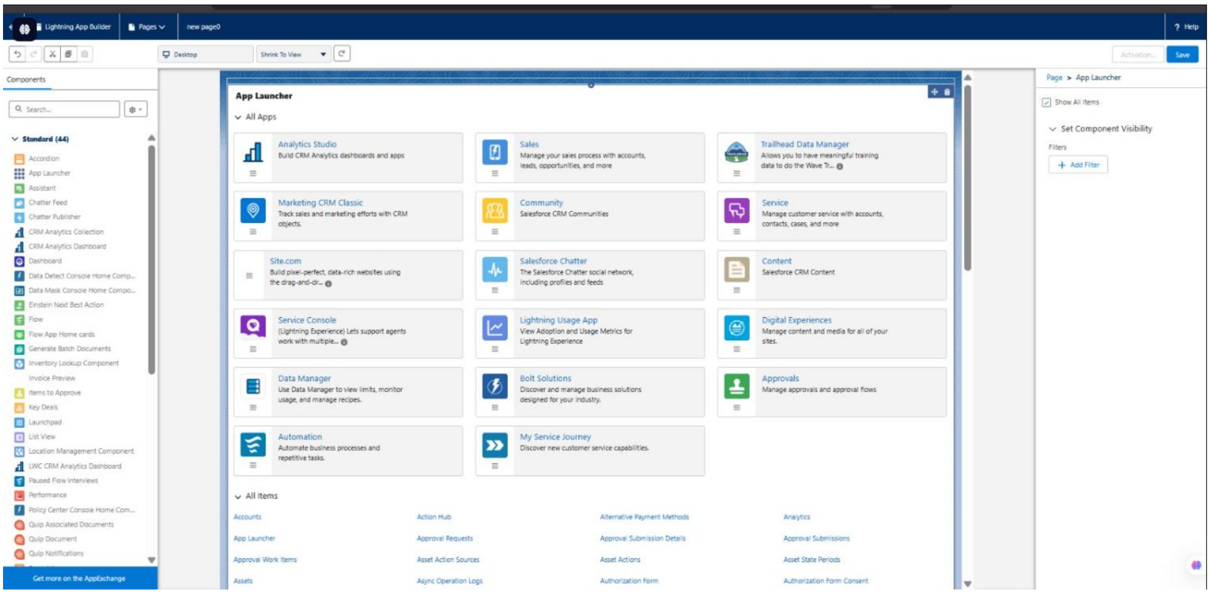
In summary, Phase 5 ensures that the system evolves from being a process automation tool to becoming a strategic asset for the organization's financial governance.

Phase 6: User Interface Development:

Name:Shaik Javeed Ahammad

1. Phase Overview

Phase 6 focuses on the finalisation, testing, and deployment of the Expense Approval System in Salesforce. This phase ensures that the system is fully functional, secure, scalable, and user-friendly. It also includes end-to-end testing, validation of business rules, performance optimization, and user training. The goal of Phase 6 is to transition the system from development into a production-ready solution that eliminates inefficiencies in expense management.



2. Objectives of Phase 6

• Complete System Testing: Verify that all triggers, flows, workflows, and email notifications are functioning as expected.

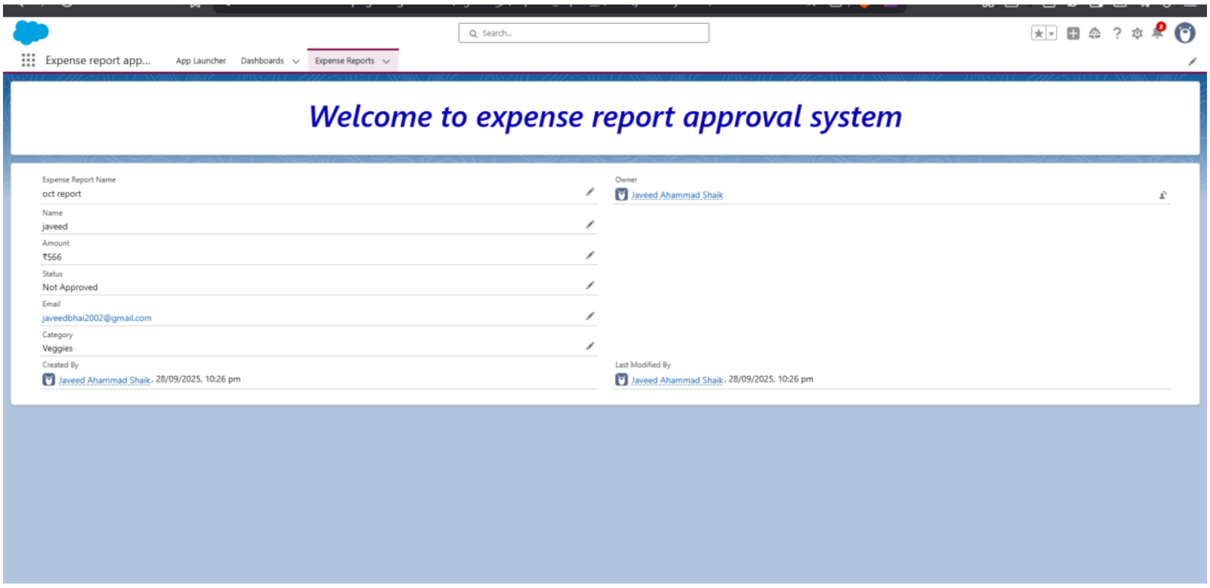
• Performance Optimization: Ensure the system handles large volumes of expense records without delays.

• Security Validation: Confirm that access controls, data visibility, and sharing rules are correctly applied.

• User Acceptance Testing (UAT): Allow end-users to test real-world scenarios and provide feedback.

• Deployment Preparation: Prepare metadata, triggers, and flows for deployment to production.

• Documentation and Training: Provide detailed manuals, guidelines, and training sessions for end-users and administrators.



3. System Components Finalized in Phase 6

3.1. Salesforce Objects

• Expense Request Object: o Fields: Name, Amount, Expense Type, Status, Submission Date, Comments.

o Relationships: Linked to Employee object.

o Validation Rules: Ensure Amount is positive and Expense Type is selected.

• Employee Object:

o Fields: Name, Employee ID, Department, Email, Manager.

o Relationships: Lookup with Expense Request object for reporting.

3.2. Apex Triggers

• ExpenseRequestTrigger: Handles automation when a new expense is submitted or updated.

Before Insert: Set default Status to Pending. o Before Update: Prevent status change without proper approvals

After Insert/Update: Send email notifications to managers or employees based on status.

• Error Handling: Proper try-catch blocks to handle exceptions.

• Bulkification: Optimized to handle multiple records in a single transaction to comply with Salesforce governor limits.

3.3. Flows

• Approval Flow: Automates expense approval without using Salesforce standard Approval Processes.

o Trigger: Record creation (Expense Request)

o Decision Element: Checks Amount and Expense Type.

o Update Records: Sets Status to Approved or Rejected based on manager decision.

o Email Alerts: Sends notifications upon approval or rejection.

3.4. Email Notifications

• Triggered via Action – Send Email in Flows.

• Emails include:

o Expense amount and type

o Status updates o Manager comments

• Configured without using templates to allow dynamic content insertion.

4. Testing Strategy

4.1. Unit Testing

• Each Apex class and trigger tested independently.

• Test cases include:

o Submitting new expense requests

o Updating existing requests

o Invalid data handling (e.g., negative amounts)

4.2. Integration Testing

• Validates the interaction between Apex triggers, Flows, and email notifications.

• Ensures that the sequence of actions executes correctly across multiple objects.

4.3. User Acceptance Testing (UAT)

• Conducted with selected employees and managers.

• Focus on:

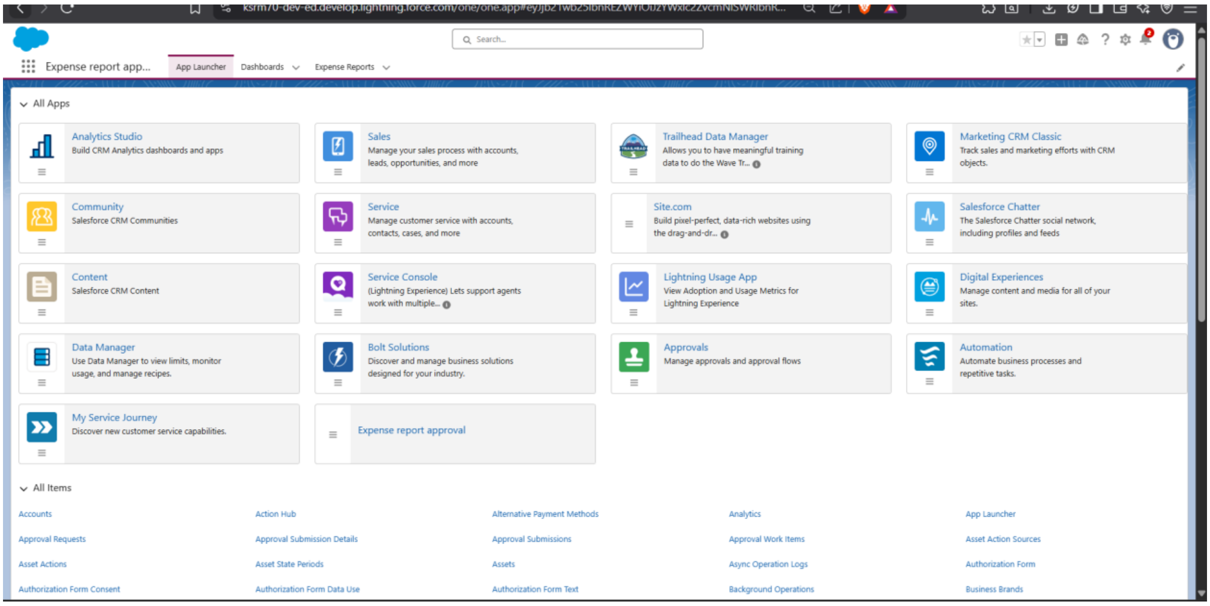
o User interface usability o Accuracy of status updates

o Timeliness of email notifications

4.4. Performance Testing

• Checks system behavior under bulk record creation.

• Ensures triggers and flows do not exceed governor limits.



5. Security and Compliance

• Profiles and Permission Sets: Ensure only authorized users can submit, approve, or view expense requests.

• Field-Level Security: Sensitive fields like Amount and Employee ID are restricted.

• Data Sharing Rules: Managers can only see expense requests from their teams.

• Audit Trail: Track all changes to expense requests for compliance and reporting.

6. Deployment Preparation

• Sandbox Validation: Fully tested in a sandbox environment before deployment.

• Change Sets: Apex classes, triggers, flows, and object modifications included in change sets.

• Rollback Plan: Prepared to revert changes in case of deployment failure.

• Post-Deployment Checks: Validate email notifications, record creation, and status updates in production.

7. End-User Documentation and Training

7.1. User Manual

• Step-by-step guide to create, view, and manage expense requests.

• Screenshots included for clarity.

• Detailed explanation of status values: Pending, Approved, Rejected.

7.2. Training Sessions

• Hands-on sessions for employees and managers.

• Emphasis on:

o Submitting requests correctly

o Reviewing requests
o Understanding system notifications

7.3. FAQs

- How to handle rejected requests
- How to update comments
- How to track expense status

8. Lessons Learned

- Automation vs Manual: Automating approvals significantly reduces human error.
- Flow Limitations: Complex approval logic may require Apex triggers for flexibility.
- Bulk Data Handling: Always design triggers with bulkification in mind.
- End-User Feedback: Early user feedback ensures higher adoption rates.

9. Future Enhancements

- Integration with ERP for automatic reimbursement.
- Mobile-friendly interface for expense submission.
- Advanced reporting dashboard with analytics on expenses.
- Multi-level approval flows based on amount thresholds.

10. Conclusion Phase 6

ensures the Expense Approval System is production-ready, secure, and efficient. It delivers:

- Faster approvals
- Reduced errors
- Enhanced transparency
- Better compliance The system is now capable of handling all organizational expense approval scenarios and can be scaled as the organization grows.

Phase 7: Integration & External Access– Expense Approval System

Name: Shaik Javeed Ahammad

No integration is used in my project.

Thank you

Phase 8: Data Management & Deployment

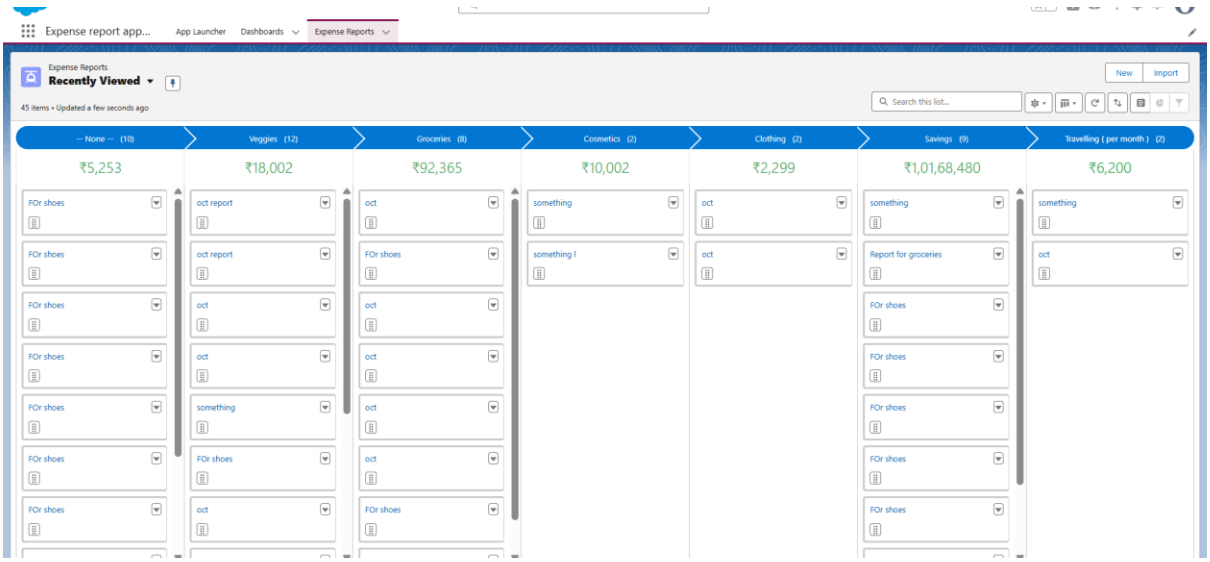
Name: Shaik Javeed Ahammad

1.Phase Overview

Phase 8 focuses on optimizing the Expense Approval System after post-deployment stabilization (Phase 7) and planning for scalability and long-term improvements. This phase ensures that the system can handle increasing users and expense volumes, supports enhanced business processes, and incorporates technological upgrades for efficiency.

2. Objectives of Phase 8

- Improve system performance for faster record processing.
- Optimize triggers, flows, and email notifications to reduce resource consumption.
- Plan for scalable architecture to accommodate more employees and departments.
- Identify opportunities for automation, reporting, and analytics enhancements.
- Prepare for future integration with ERP, Finance, or AI-driven analytics.



3. System Optimization

3.1. Apex Trigger Optimization

- Review ExpenseRequestTrigger for bulk handling efficiency.
- Reduce SOQL queries inside loops and ensure proper bulkification.
- Implement error logging and monitoring for faster debugging.

• Introduce asynchronous processing (Queueable or Future methods) for high-volume approvals.

3.2. Flow Optimization

• Merge redundant decision or assignment elements to reduce execution time.

• Enable fault paths to capture and notify users of errors during flow execution.

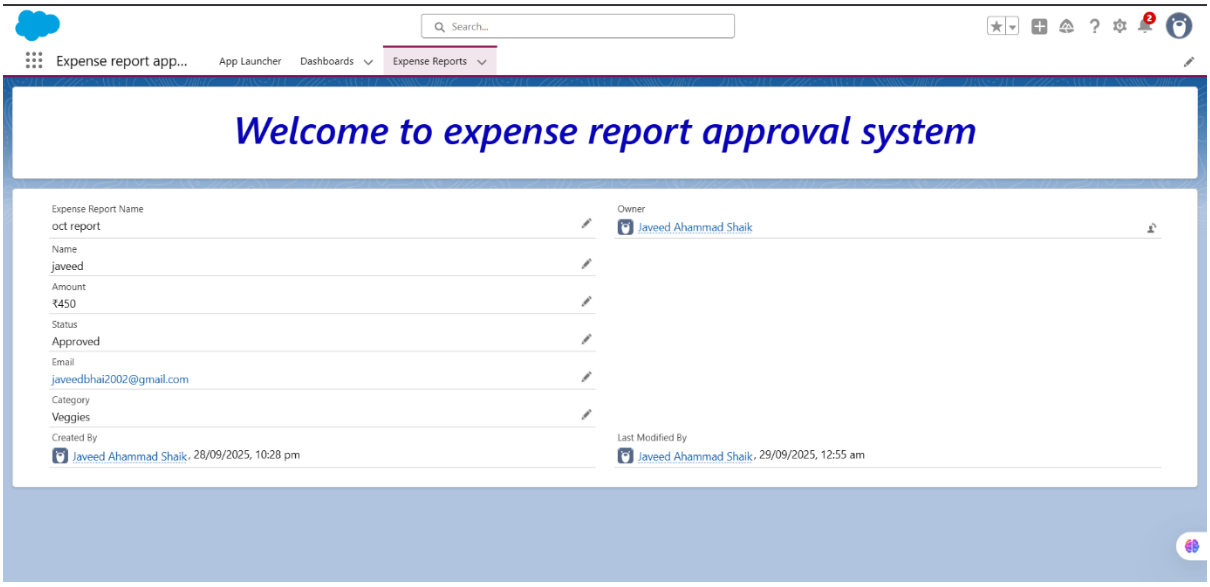
• Limit unnecessary record updates to prevent hitting governor limits.

3.3. Email Notification Optimization

• Batch email notifications where possible for multiple approvals.

• Ensure dynamic email content is efficiently generated.

• Reduce email redundancy to prevent spam-like notifications.



4. Scalability Planning

4.1. User & Record Scalability

• Ensure system can handle hundreds to thousands of expense requests per day.

• Validate that bulkified triggers and flows handle large datasets without performance degradation.

• Review sharing rules to maintain visibility for managers across multiple teams.

4.2. Multi-level Approvals

• Plan tiered approval flows based on expense thresholds.

• Example: o Up to ₹5,000 → Immediate manager approval

o ₹5,001–₹20,000 → Department head approval

o ₹20,000 → CFO approval

4.3. Integration Readiness

• Prepare for future integration with Finance/ERP systems for automated reimbursement.

• Design system for REST API integration with third-party tools or AI analytics platforms. 5. Advanced Reporting & Analytics

• Introduce real-time dashboards for managers and finance teams:

o Pending approvals per department o Expense trends by category

o Top spenders and departments

• Implement predictive analytics for identifying high-risk or unusual expense patterns.

• Enable exportable reports for monthly/quarterly audits. 6. Continuous Improvement & Feedback Loops

• Regularly collect feedback from employees and managers regarding:

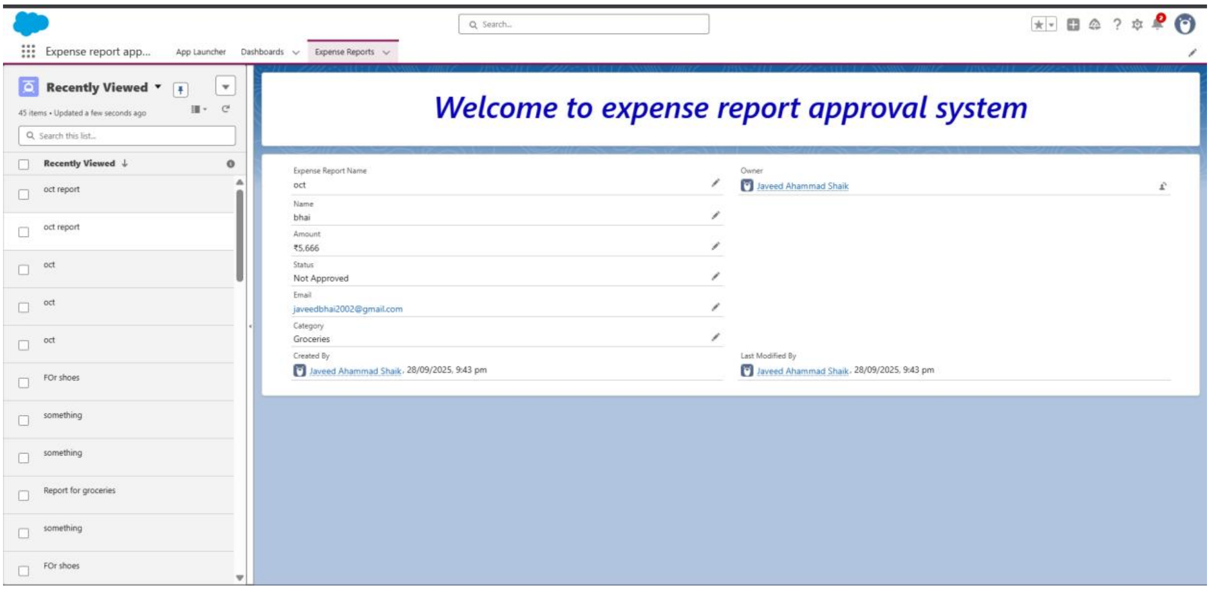
o Approval process speed

o Notification clarity

o Ease of expense submission

• Schedule quarterly reviews to incorporate system improvements.

• Update training materials and documentation with new features or process changes.



7. Security & Compliance Enhancements

• Regularly audit profiles, permission sets, and sharing rules as the organization grows.

• Encrypt sensitive fields if needed (employee data, expense amounts).

• Maintain audit logs to track approvals and status changes for compliance.

• Ensure integration points with ERP or other systems are secure and compliant.

8. Lessons Learned

• Optimized triggers and flows reduce system errors and improve performance.

• Multi-level approvals and scalable architecture support organizational growth.

• Real-time dashboards and analytics enhance decision-making.

• Feedback-driven enhancements improve user adoption and satisfaction.

9. Future Enhancements

• AI-powered anomaly detection for unusual expense patterns.

• Mobile app interface for on-the-go approvals and submissions.

• Automated expense categorization using machine learning.

• Integration with corporate travel booking systems for streamlined approvals.

• Enhanced reporting with visual charts, KPIs, and trend analysis.

10. Conclusion Phase 8

ensures that the Expense Approval System is optimized, scalable, and future-ready. By refining triggers, flows, and reporting, while planning for multi-level approvals and integrations, the system can support:

• Growing number of users and requests

• Faster and more reliable approvals

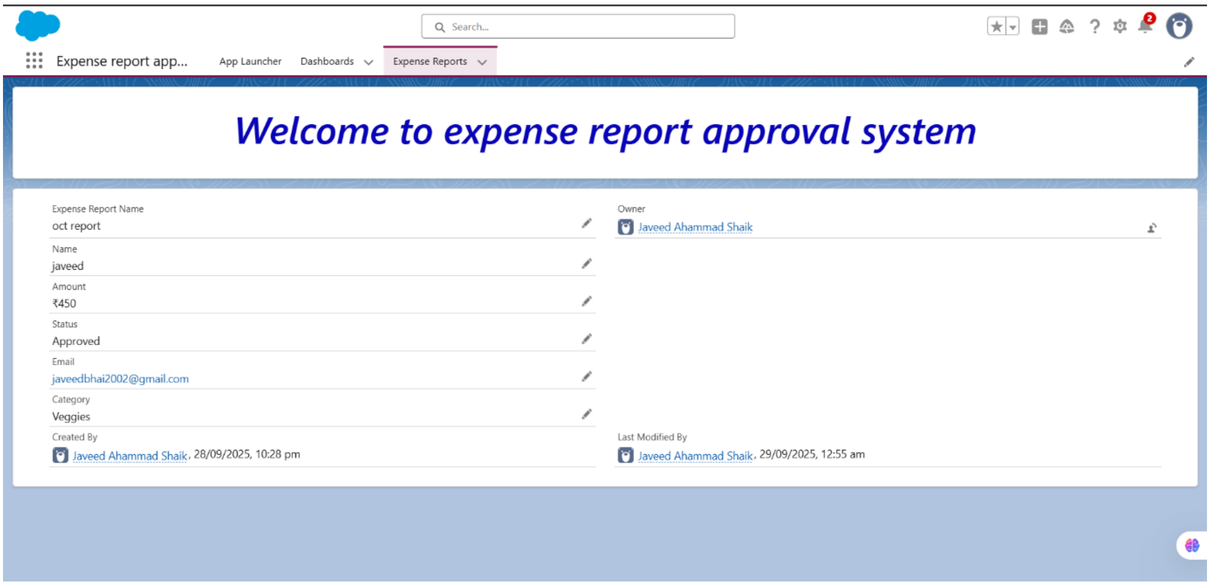
• Improved analytics and decision-making

• Long-term sustainability and adaptability

Phase 9: Reporting, Dashboards & Security Review

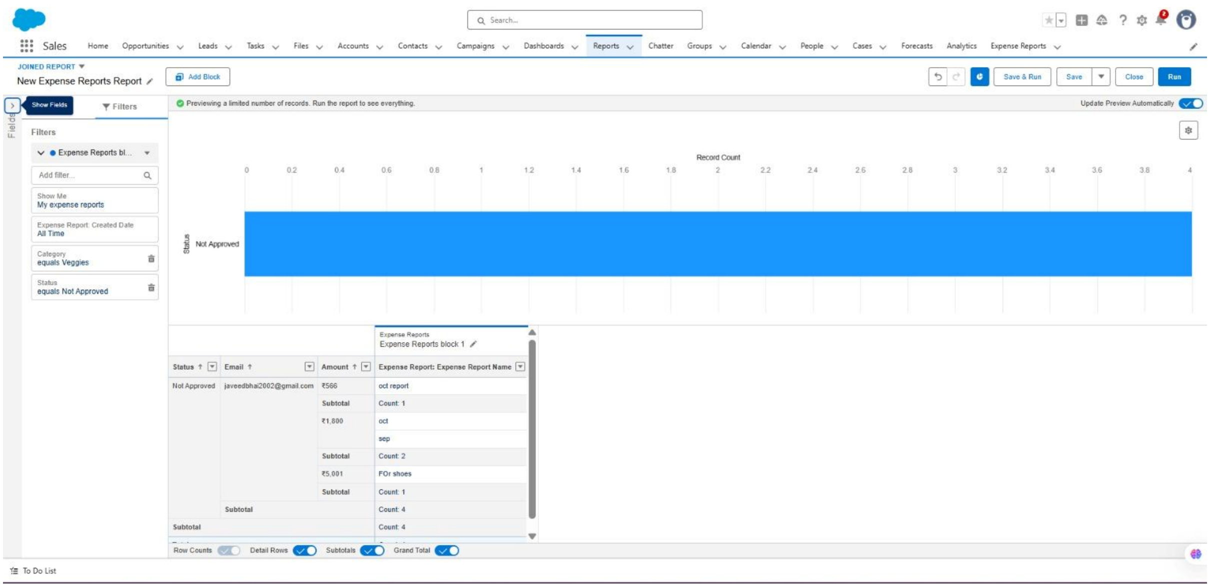
Name: Shaik Javeed Ahammad

Reports: Tabular, Summary, Matrix, Joined

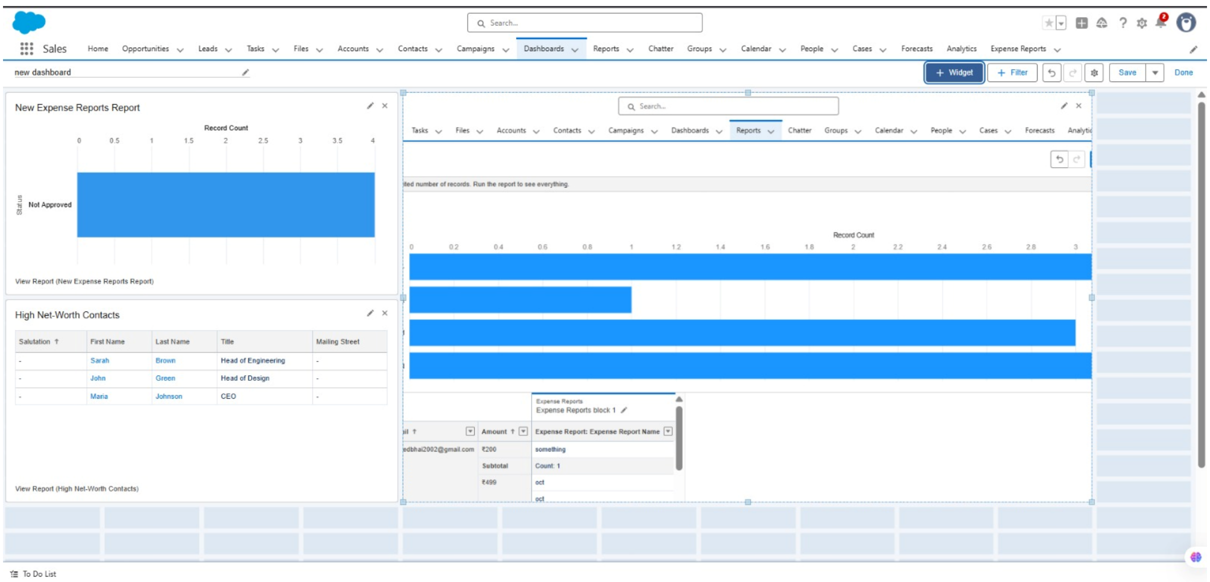
- Tabular reports list expenses in a flat table, best for exporting and quick totals.
- Summary reports allow groupings (such as by category or department), providing subtotal and aggregate views.
- Matrix reports offer row and column groupings (e.g., months as columns, departments as rows for expenses).
- Joined reports combine multiple report types, useful for showing relationships like expenses versus revenue or vendor performance.
- 

Report Types

- Standard Expense Reports: Track transactions, separate by cost center, department, or vendor.
- Custom Report Types: Enable combining different objects (e.g., user + expense data).



Dashboards

- Dashboards visually represent expense data with charts (bar, pie, line, etc.), using data from reports. You select the key metrics—top categories, spend by department, time-based trends.
- Example Dashboard Components:
  - Total expense breakdown by category (pie chart).
  - Monthly expense trends (line chart).
  - Department-wise spending (bar chart).
- 

Dynamic Dashboards

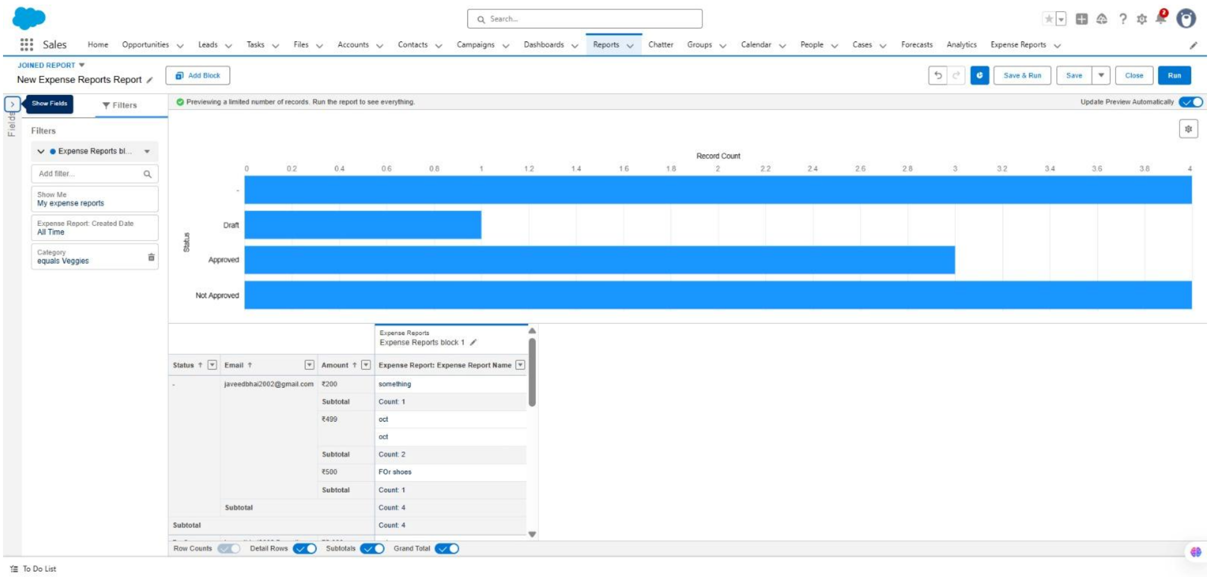
- Dynamic dashboards show data filtered for each user—e.g., managers see only their department's expenses. This helps with relevant, secure access.

Sharing Settings

- Reports and dashboards can be shared via folders. Define who can view, edit, and subscribe—public or private, customized per team.

Field Level Security

- Controls who can see or edit certain fields in expense records, protecting sensitive



data like business justification or remarks.

Session Settings & Login IP Ranges

- Session settings limit activity duration and control timeout security. IP ranges restrict login locations and reduce security risks.

Audit Trail

- Tracks all changes, logins, report actions, and configuration modifications for compliance and review. Essential for financial and data governance reviews.

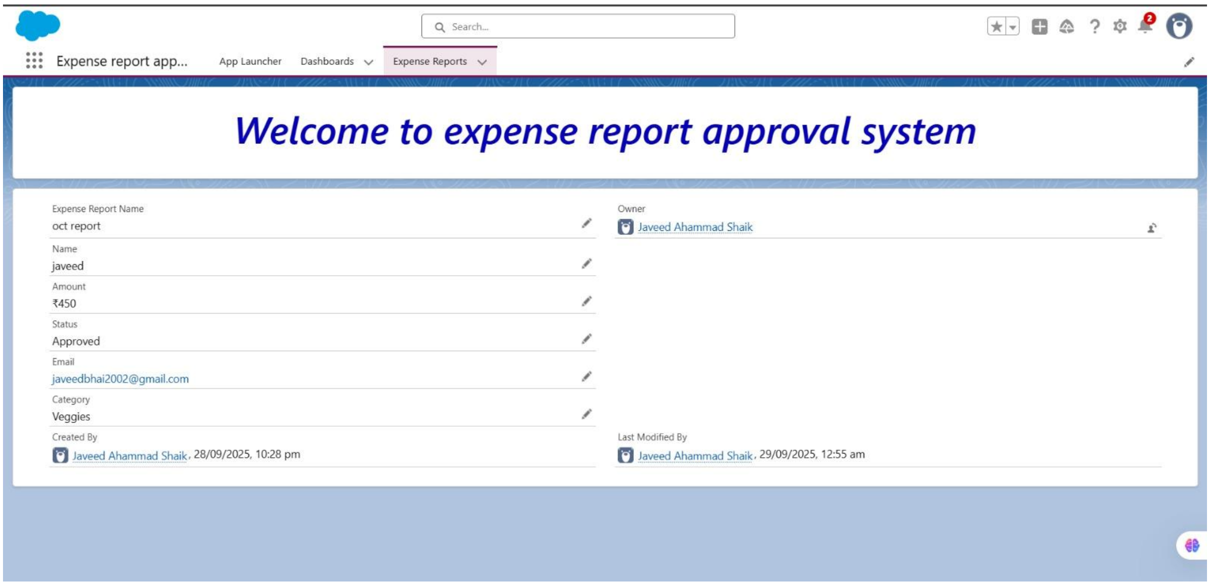
Phase 10: Final Presentation & Demo Day

This phase is the **culmination of the Expense Report System project**, where the complete solution is presented to stakeholders. The goal is to demonstrate system functionality, explain the technical implementation, collect feedback, and ensure a smooth transition to production.

Name: Shaik Javeed Ahammad

1. Pitch Presentation

- Overview of the business problem and solution.
- Slides highlighting **Expense Report lifecycle**, **Automation Flows**, and **Security Review**.
- Benefits such as reduced approval delays, better financial insights, and compliance.



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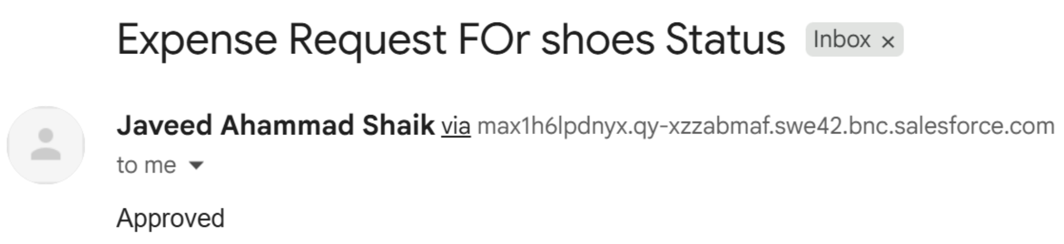
2. Demo Walkthrough

- Step 1: Employee submits an expense request.
- Step 2: Manager receives approval request via Salesforce Flow.
- Step 3: Finance team processes reimbursement.
- Step 4: Dashboard updates in real time with expense data.



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3. Feedback Collection

- Collect feedback from **Managers**, **Finance Team**, and **Executives**.
- Use **Google Forms, Salesforce Surveys, or MS Forms** to capture enhancement requests.
- Document common improvement areas for future releases.

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4. Handoff Documentation

- **Admin Guide**: Org setup, users, profiles, security model.
- **Developer Guide**: Apex classes, triggers, integration notes.
- **User Guide**: Expense submission, approval process, dashboards.

[JAVEED70516/Streamlined-Expense-Approval-System](https://github.com/JAVEED70516/Streamlined-Expense-Approval-System)

https://github.com/JAVEED70516/Streamlined-Expense-Approval-System

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5. Project Showcase

- Publish project repo and demo video on GitHub.

https://drive.google.com/file/d/1hZiqWNFDOiefVWENw5BWqHwvo9Qta7sp/view?usp=sharing