Salesforce Project

Car Rental Management System

Small rental businesses often struggle to manage car bookings, customer interactions, and fleet availability due to reliance on manual processes, phone calls, or spreadsheets. This leads to challenges such as double-bookings, delayed maintenance, missed payments, and poor customer experiences. For small businesses and startups, these inefficiencies result in reduced profitability and lower customer satisfaction.

To address these challenges, a Salesforce-based Car Rental Management System is designed to streamline the booking process, automate notifications, track maintenance, and provide real-time analytics through Salesforce Reports and Dashboards. This ensures better visibility into rental trends, fleet utilization, and customer engagement at an affordable cost.

Phase 1: Problem Understanding & Industry Analysis

1. Requirement Gathering (What to Track):

Cars (Inventory Management):

- Car ID / Serial Number
- Car Type (Sedan, SUV, Hatchback, Electric, etc.)
- Availability Status (Available, Booked, Under Maintenance)
- Rental Rate (per hour/day/week)
- Maintenance Due Date

Customers (Renter Records):

- Customer Name & Contact Info
- ID Proof Details (License/ID Card)
- Rental History (previous bookings, payment status)

Bookings/Reservations:

- Booking ID
- Car Selected
- Rental Duration (start & end date/time)
- Payment Status (Pending, Paid, Overdue)
- Linked Record (Customer Account/Contact)

Reporting & Dashboards:

- Active Rentals (current bookings)
- Car Utilization Rate (available vs rented)
- Revenue by Car Type or Time Period
- Overdue Returns & Payments
- Top Customers (frequent renters)

Automations (Workflow Rules/Flows):

- Auto-confirmation email/SMS after booking creation
- Reminder 24 hours before car return deadline
- Notification for overdue returns/payments
- Auto-creation of maintenance tasks after certain rental cycles

2. Stakeholder Analysis

- **Customer (Bike Renter):** Needs a smooth booking process, timely confirmations, and return reminders.
- **Rental Staff (End Users):** Requires an easy interface to create/update bookings, check availability, and collect payments.
- **Manager/Owner:** Needs dashboards to track rentals, revenue, and overdue returns for better decision-making.
- **Admin:** Configures custom fields, sets up flows for automations, and manages fleet/booking data.

3. Business Process Mapping

- **Booking Creation:** Rental staff/customer creates booking linked to a bike and a customer record.
- **Availability Check:** System ensures bike is not double-booked.
- **Confirmation & Payment:** Booking confirmation sent; payment marked (Pending/Paid).
- **Rental Execution:** Bike handed over, status changed to "Rented."

- **Return & Closure:** Upon return, staff updates status, records payment, and schedules maintenance if needed.
- **Reporting & Insights:** Dashboards show revenue, fleet usage, overdue returns, and top-performing bikes/customers.

4. Industry-Specific Use Case Analysis

- **Local Bike Rental Shops:** Centralizes booking and customer management, reducing manual work.
- **Tour Operators:** Tracks group rentals, payment status, and customer engagement.
- **Corporate Rentals:** Supports companies offering employee bike rentals with usage reports and cost tracking.

5. AppExchange Exploration

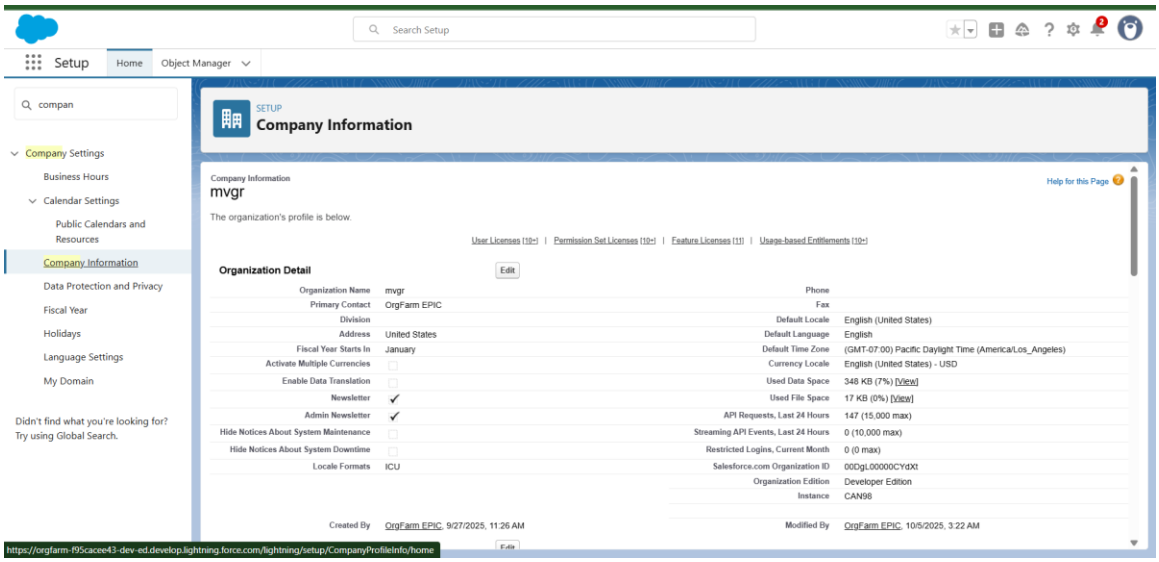
Explore Salesforce AppExchange apps like:

- **Rental Management Solutions (3rd-party apps):** End-to-end rental lifecycle tools.
- **Field Service Lightning:** To track maintenance schedules and technician assignments.
- **Conga Composer:** For generating rental agreements and invoices.
- **Payment Gateway Integrations (Stripe, PayPal):** For online payments. **Why Simple & Affordable?**
- **Low Complexity:** Uses standard Salesforce objects (Accounts, Contacts, Opportunities, Assets) with minimal customization.
- **Cost-Effective:** Built using Flows, Workflow Rules, and Reports/Dashboards, compatible with Salesforce Essentials or Lightning Professional editions.
- **Scalable for Small Businesses:** Designed for rental shops with 5–100 bikes and users, providing essential functionality without expensive addons.

Phase 2: Org Setup & Configuration

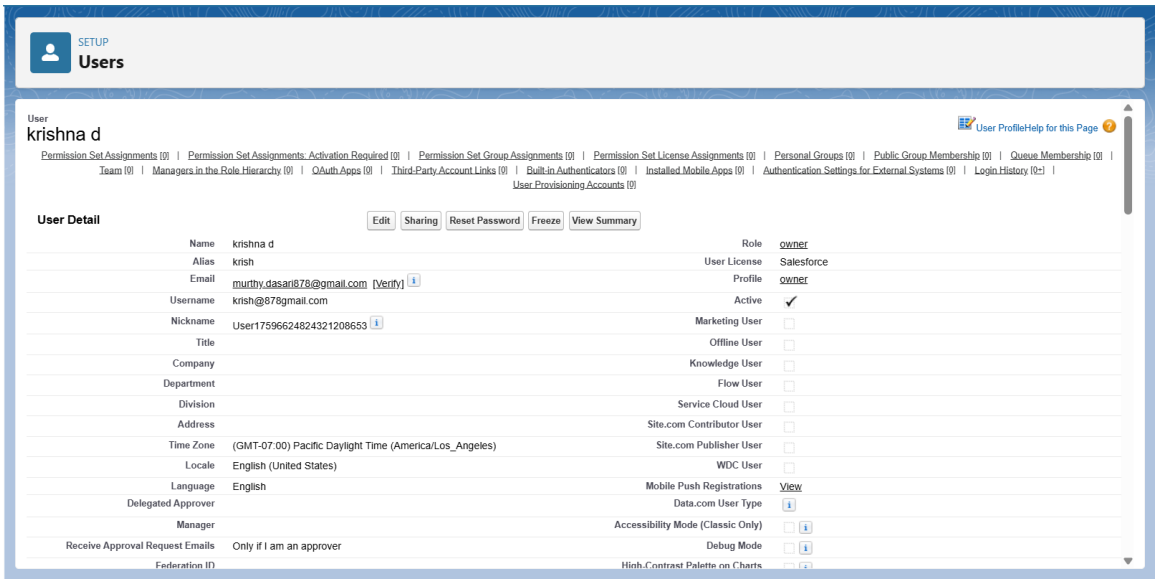
Purpose: Configure Salesforce org for Car Rental Management System to ensure users, profiles, roles, and security settings are correctly aligned with rental, support, and maintenance operations.

1. Salesforce Edition: Developer Edition
2. Company Profile Setup:
    - Company Name, Address, Timezone → Asia/Kolkata (IST)

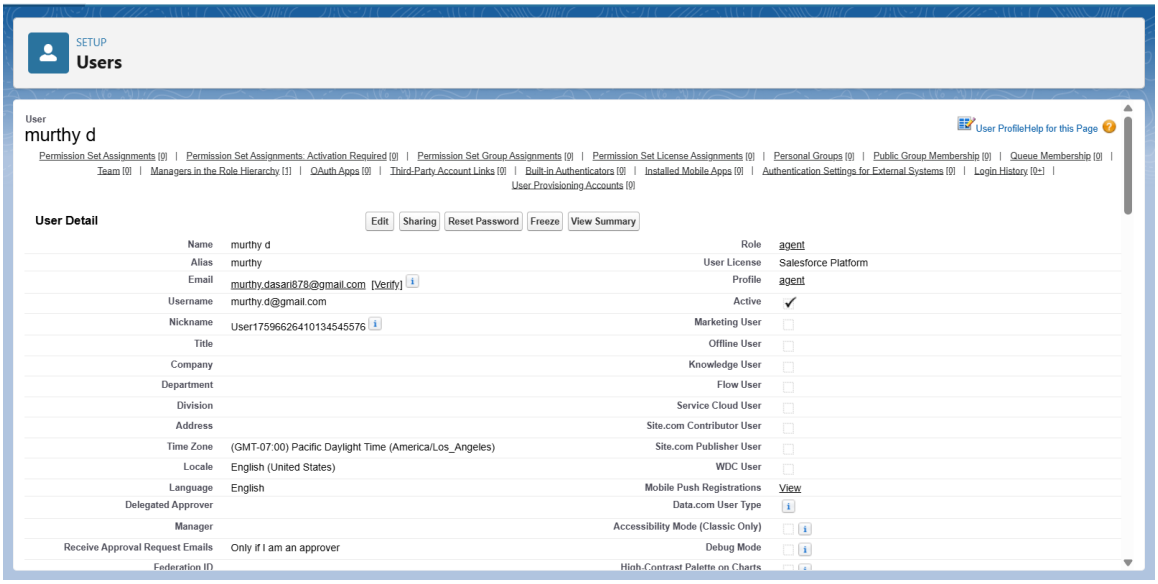


3. Business Hours & Holidays:
• Rental Operations: Mon–Sun, 6 AM – 11 PM
• Customer Support: 9 AM – 8 PM
• Add regional public holidays for SLA tracking
4. Fiscal Year: Standard
5. User Setup & Licenses – Create Sample Users:
• Admin: Full access to rental and dashboard data
• Rental Manager: Manages car inventory, approves booking overrides
• Support Agent: Handles refund requests and customer complaints

• Role: Owner
• User License: Salesforce
• Profile: Owner



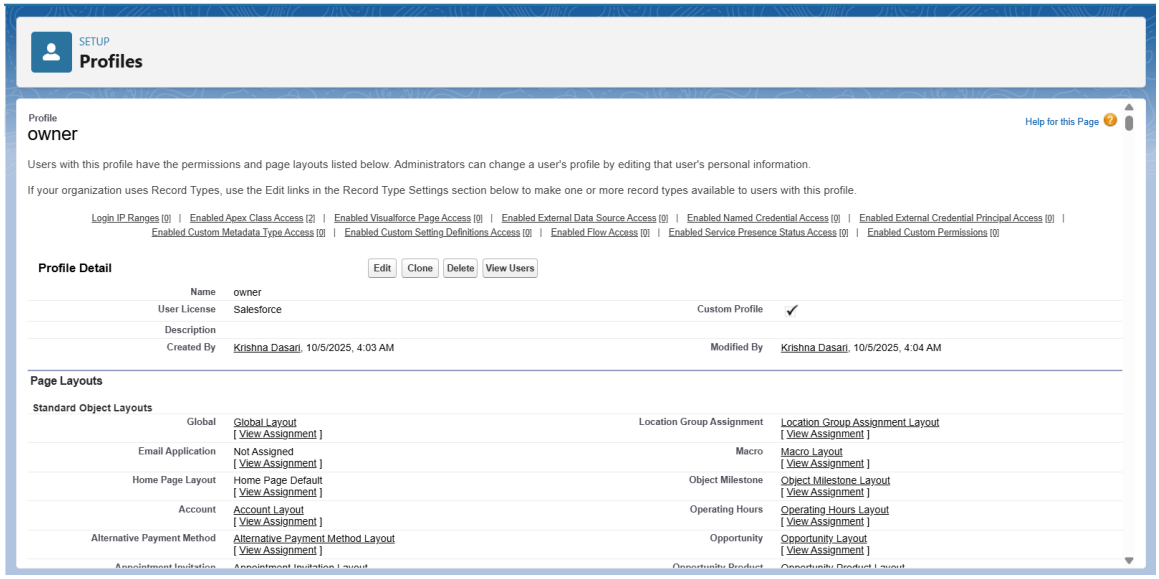
- Role: agent
- User License: Salesforce platform
- Profile: agent

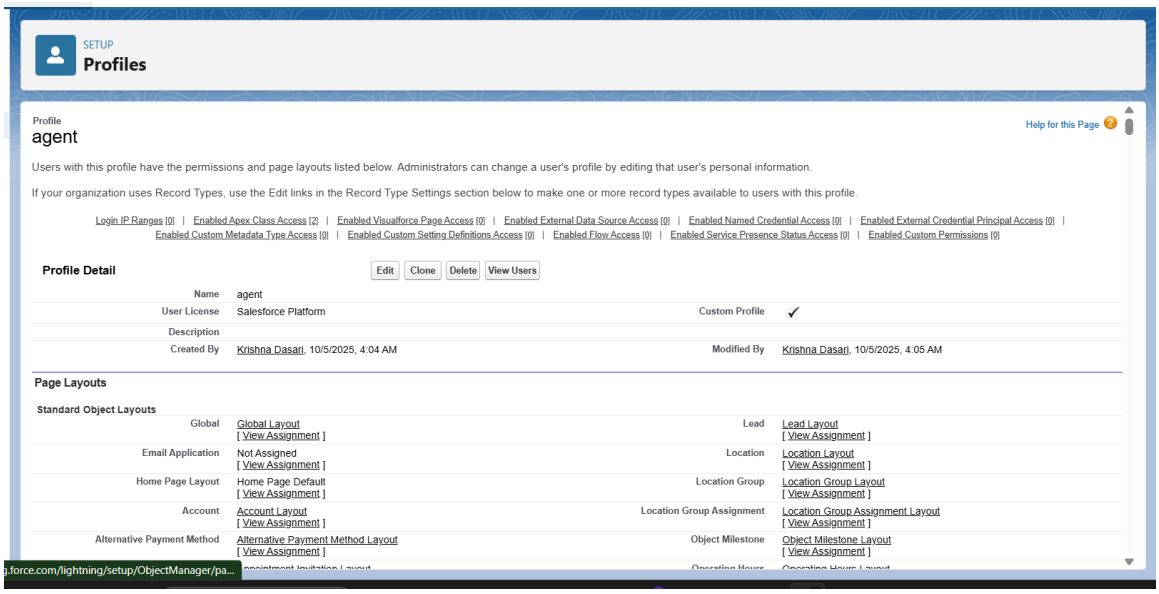


6. Profiles:

- Admin: Full access
- Rental Manager: Manage cars, bookings, refunds
- Support Agent: Limited to bookings and refund requests
- Technician: Manage maintenance records

• Receptionist: Create bookings only



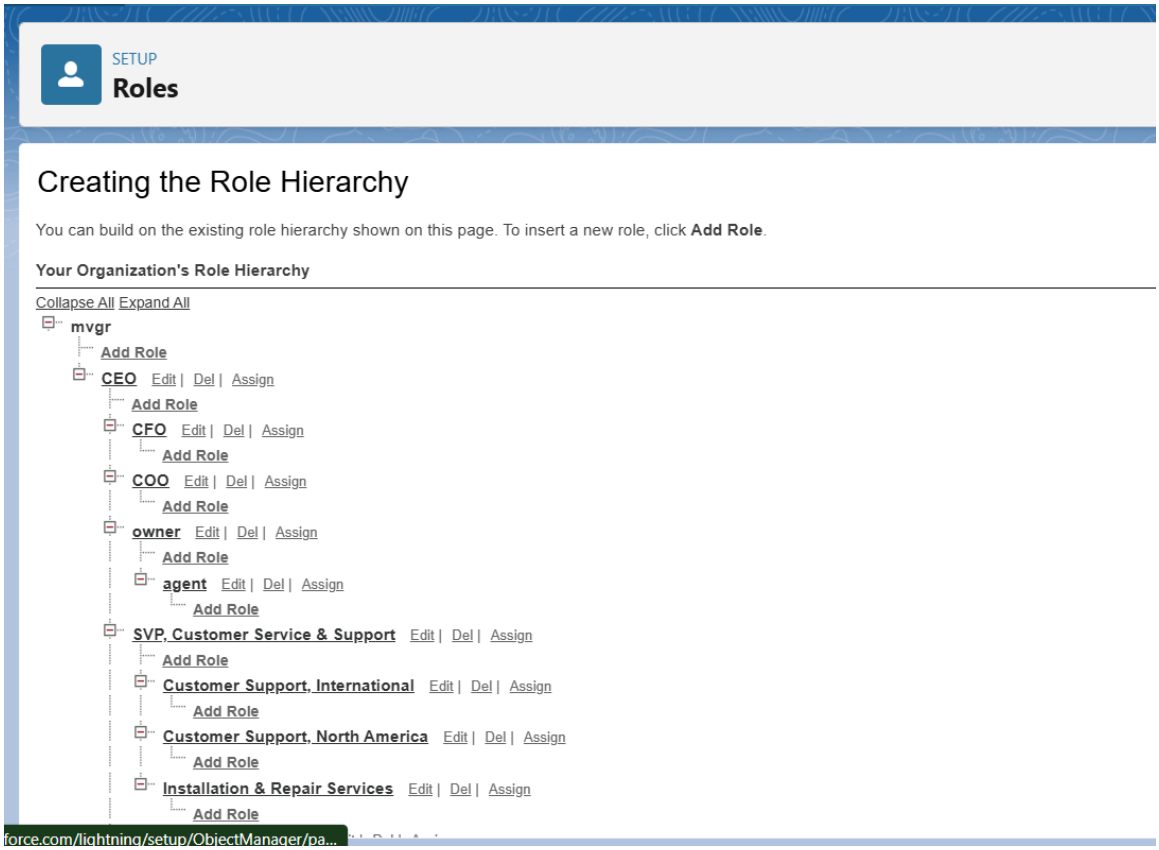


7.Roles(Hierarchy Structure):

Sample structure:
Admin > Rental Manager > Support Agent / Technician > Receptionist

- Expanded explanations for each role (Admin, Rental Manager, Support Agent, Technician, Receptionist).
- Include their key responsibilities, Salesforce permissions, and day-to-day activities.

- Optional roles like Finance Officer and Marketing Executive for a complete organization hierarchy.
- Keep the same formal tone and formatting as your Word document.



8. Permission Sets: Assign report and dashboard access to Rental Managers & Support Agents
9. OWD & Sharing Rules:
    - Customers / Contacts: Private
    - Bookings / Rentals: Private
    - Refund Requests: Private
    - Sharing Rule: Share each booking and refund only with assigned Support Agent or Manager
10. Login Access Policies: Admin can login as any user
11. Sandbox Usage & Deployment Basics:
    Optional used for testing refund workflows and automation setup before moving to production

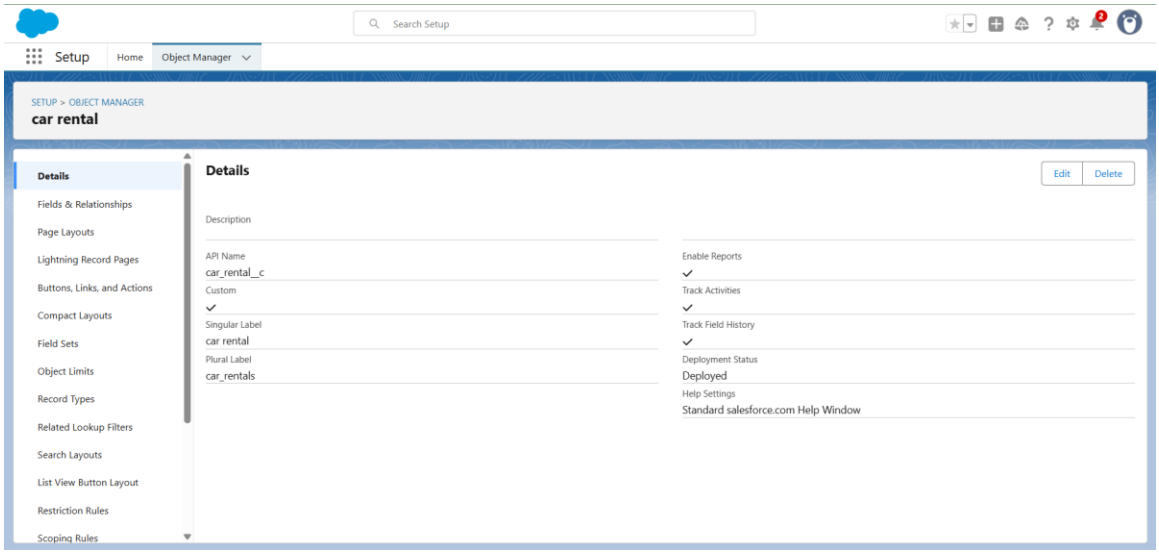
Phase 3: Data Modeling & Relationships

Purpose: Design Salesforce objects and relationships for managing customers, car rentals, payments, refunds, and maintenance data.

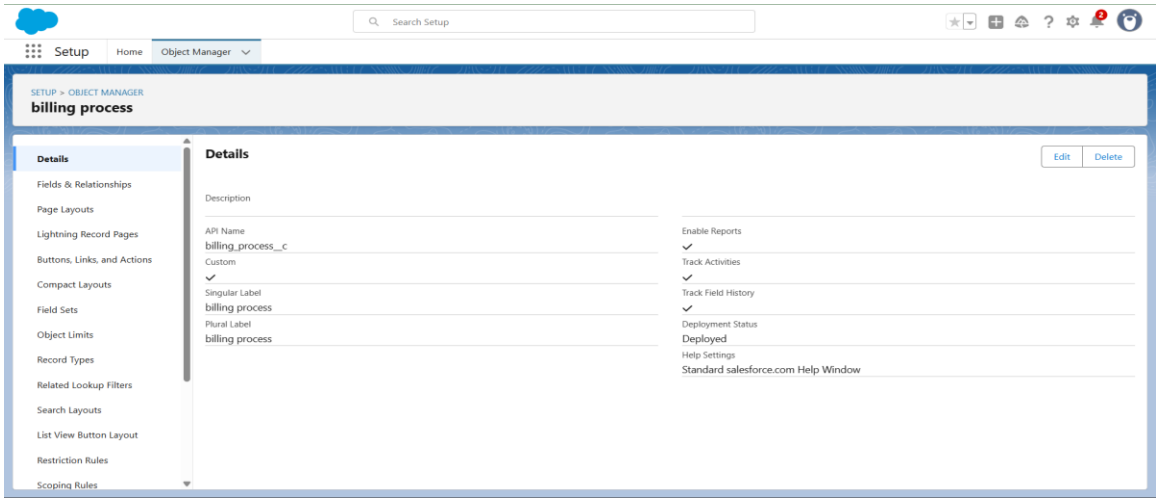
1. Custom Objects:

- A detailed explanation of each custom object in the Car Rental Management System (Car Bookings, Car Fleet, Billing, Customers/Users, Maintenance, etc.).
- For each object:
  - Purpose, Key fields,Relationships (Master-Detail / Lookup)
  - Example records, Add real-world mapping

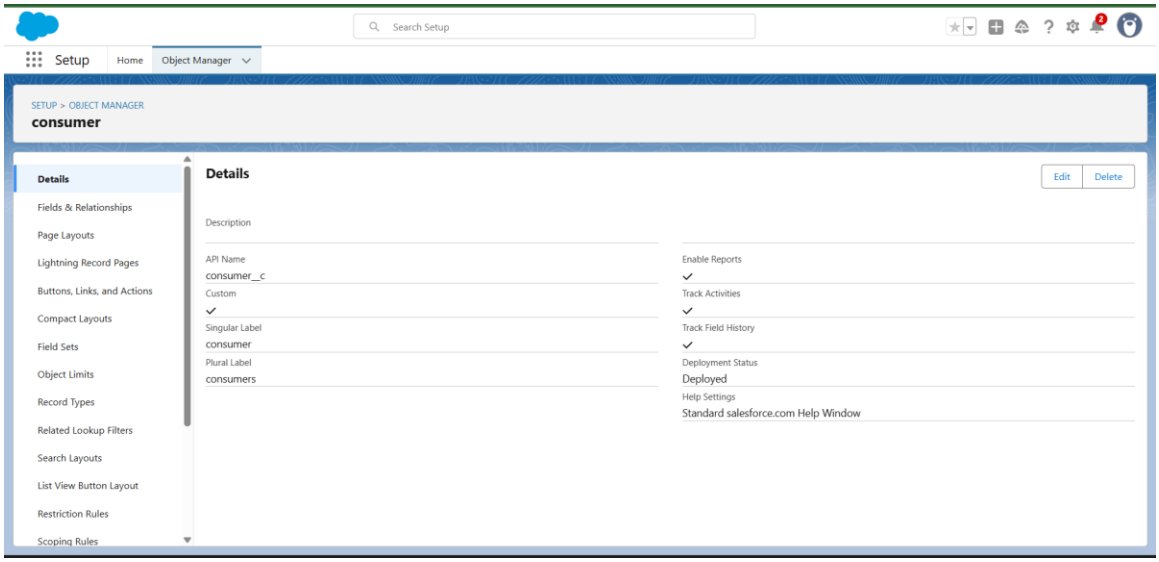
• Car rental



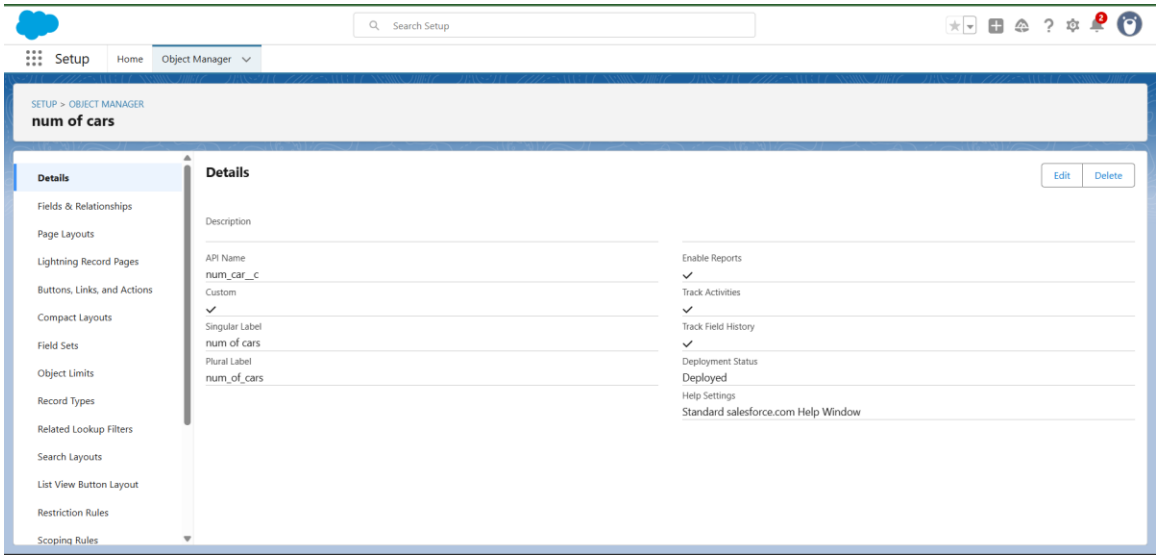
• Billing process



• Consumer



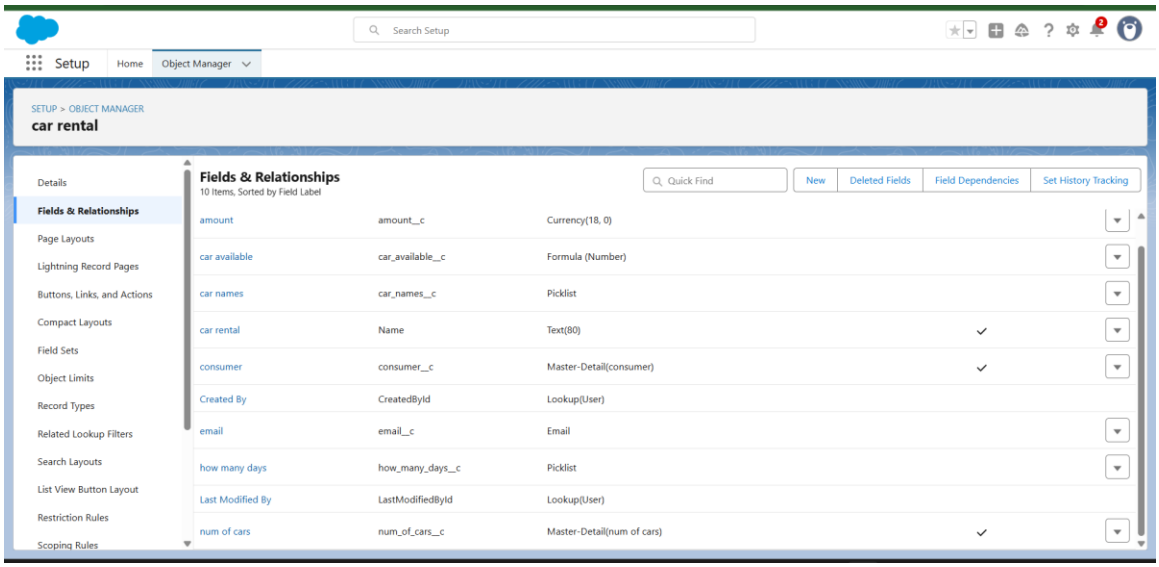
• Num of cars



2. Fields and Relationships:

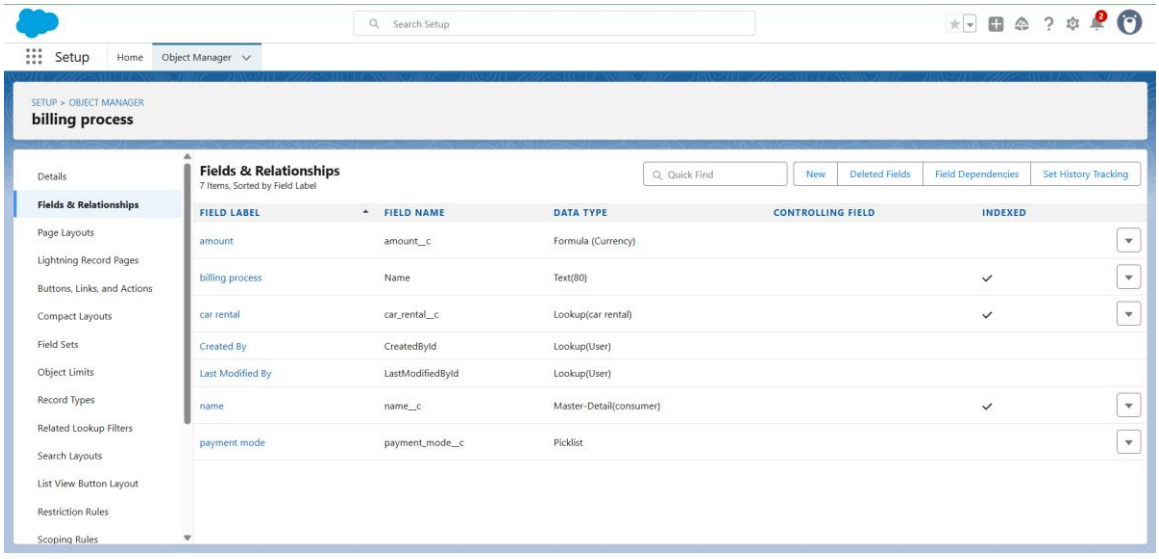
Car rental

- Amount
- Car Name
- Email
- Days
- Total Cars



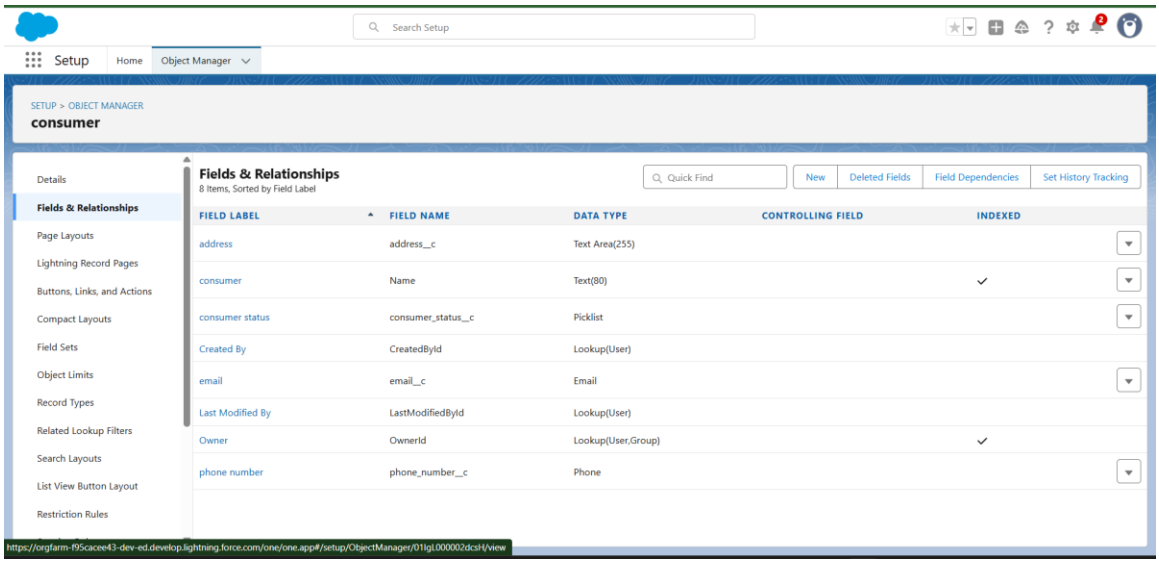
Billing process

- Amount
- Booking
- User
- Payment mode
- Name
- Email
- Address



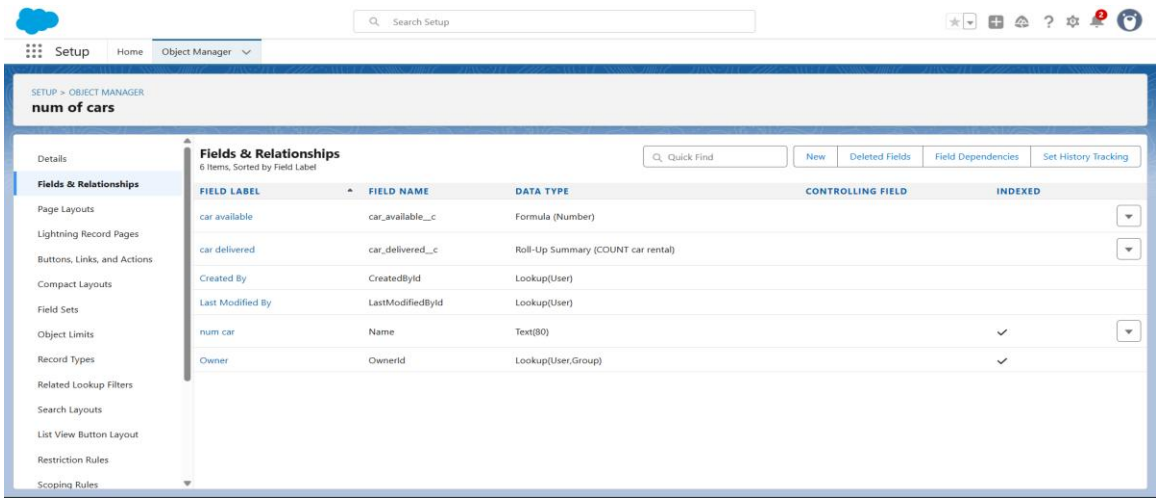
Consumer

- Name
- Email
- Address
- Status



Num of cars

- Available Cars
- Delivered Cars
- Owner

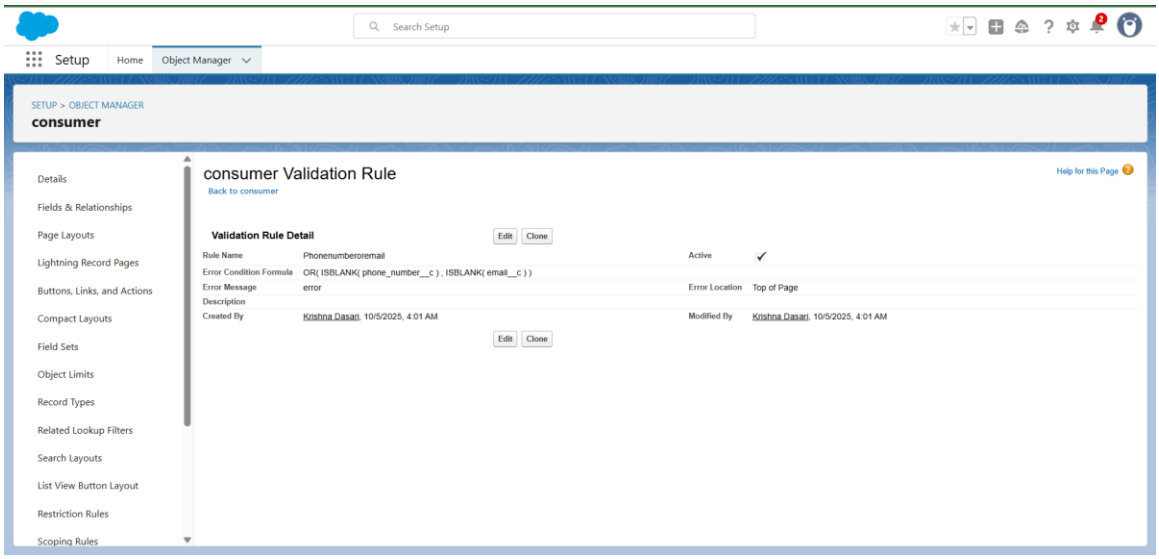


3. Record Types & Page Layouts – Default record type used for all.
4. Compact Layouts – Key fields: Booking Name, Status, Car Name, Days.
5. Schema Builder – Visual view of Car Booking, Billing, Users, and Car Fleet.

Phase 4: Process Automation (Admin)

Purpose: Automate repetitive tasks, notifications, and follow-ups.

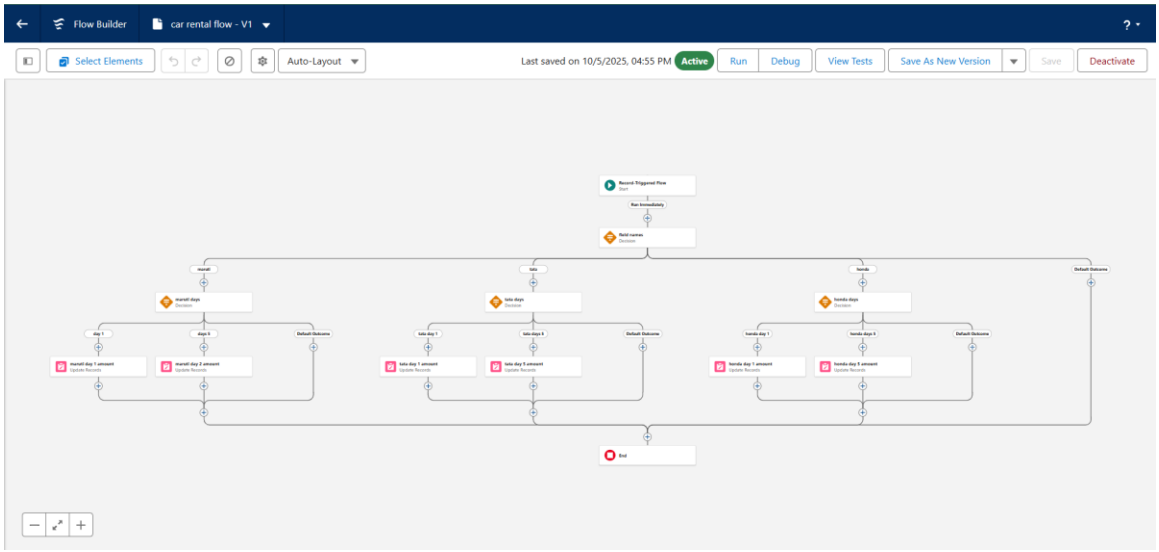
1. Validation Rules:
• Return Date >= Start Date
• Car Availability = Yes
• Customer Age >= 18



2. Workflow / Process Builder:
• Notify Admin when car is booked or returned late
• Auto-assign rental plan
• Flag overdue rentals

3. Flow Builder:
• Auto-create Active Rentals report
• Send maintenance reminders

• Notify customers of returns



Phase 5: Apex Programming (Developer)

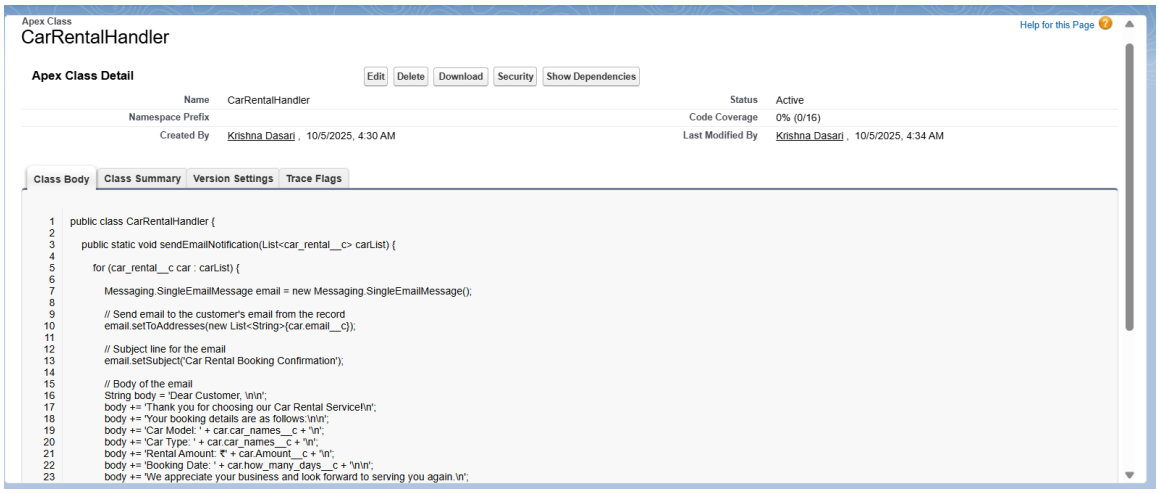
Purpose: Use Apex code for advanced automation.

1. Triggers:
• On Booking Insert – Assign rental plan
• On Status Update – Notify Admin if overdue
• On Maintenance Update – Notify Technician

2. Helper Classes:
• Calculate rental status, maintenance priority, loyalty points

3. Batch/Queueable Apex:
• Bulk update active rentals
• Generate monthly reports

4. Test Classes – Ensure trigger and batch execution.



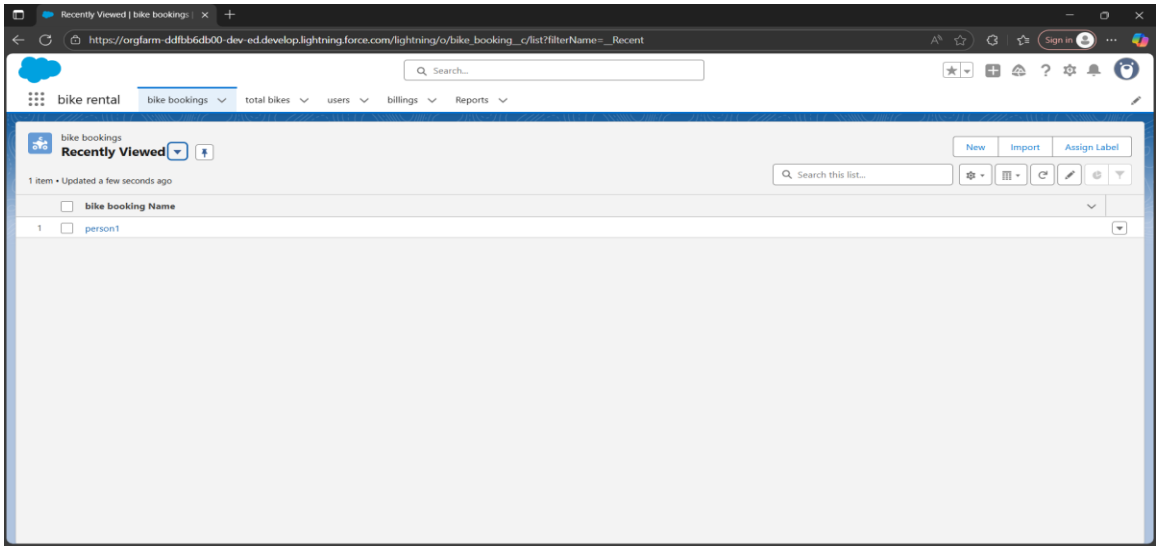
Phase 6: User Interface Development

Purpose: Create a user-friendly interface.

1. Create Car Rental App in Lightning App Builder

• Name: Car Rental Management

• Include logo and branding



2. Add Tabs: Cars, Customers, Bookings, Maintenance, Reports, Dashboards

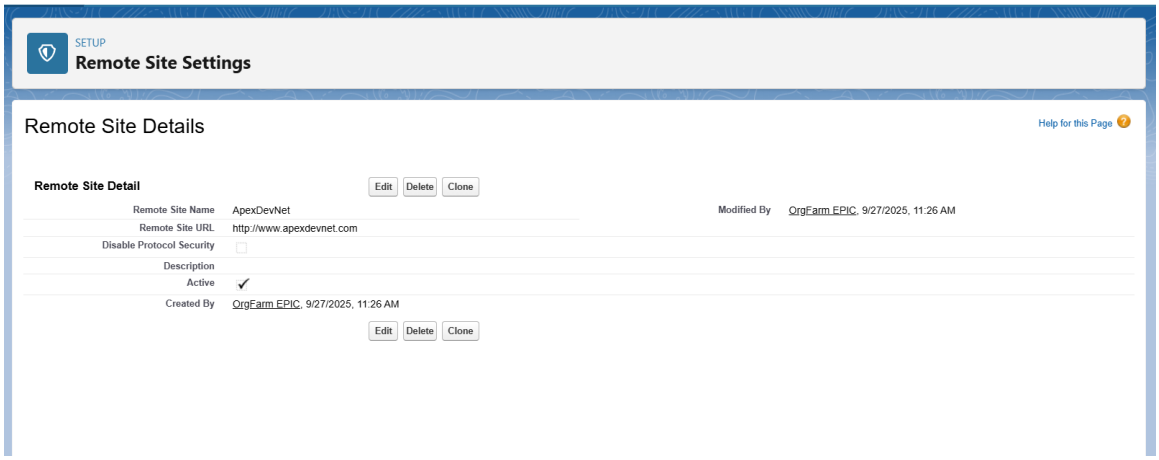
3. Customize Record Pages for Customers, Cars, and Bookings

4. Add Dashboards showing key metrics like rentals and maintenance.

Phase 7: Integration & External Access

Purpose: Integrate Salesforce with external APIs for email, SMS, and payments.

1. Named Credentials – Email, SMS, Payment Gateway, Marketing API
2. Platform Events – Notify admin/support when car is overdue or damaged
3. Remote Site Settings – Enable external API access



Phase 8: Data Management & Deployment

Purpose: Ensure smooth data migration and deployment.

1. Data Import Wizard – For small datasets like Customers or Cars
2. Data Loader – For bulk uploads or updates
3. Duplicate Rules – Prevent duplicate customer or car entries
4. Change Sets – Deploy configurations from sandbox to production
5. Data Export – Monthly backups of customers, cars, and bookings

[Insert Screenshot Here – Data Loader Interface]

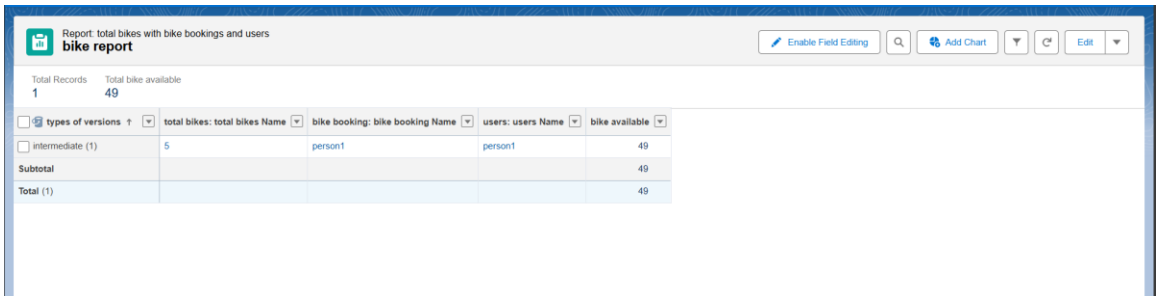
Phase 9: Reporting, Dashboards & Security Review

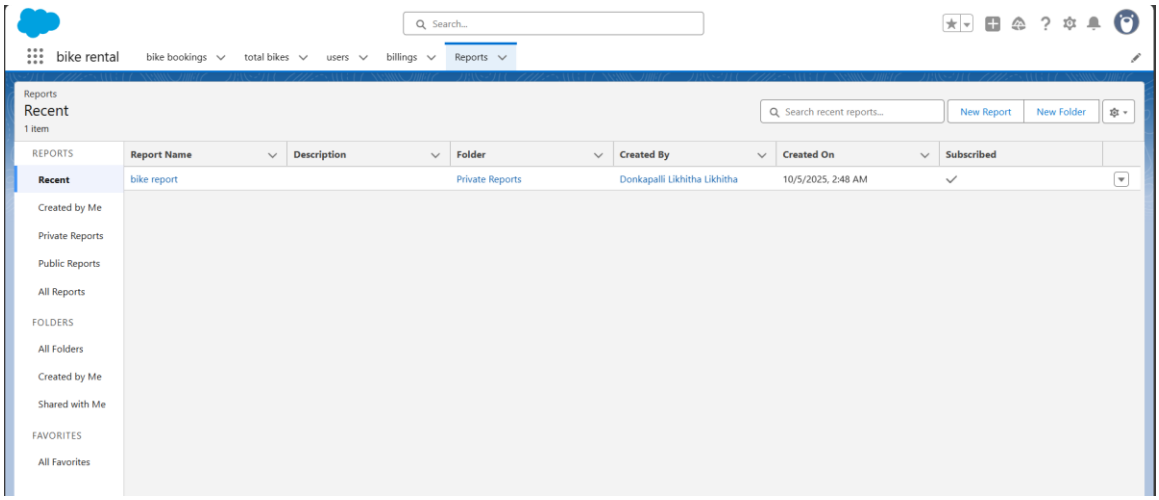
Purpose: Track car usage, rentals, and maintenance status.

Reports:

- Active / Overdue Rentals
- Maintenance Tasks

• Rentals per Car Type



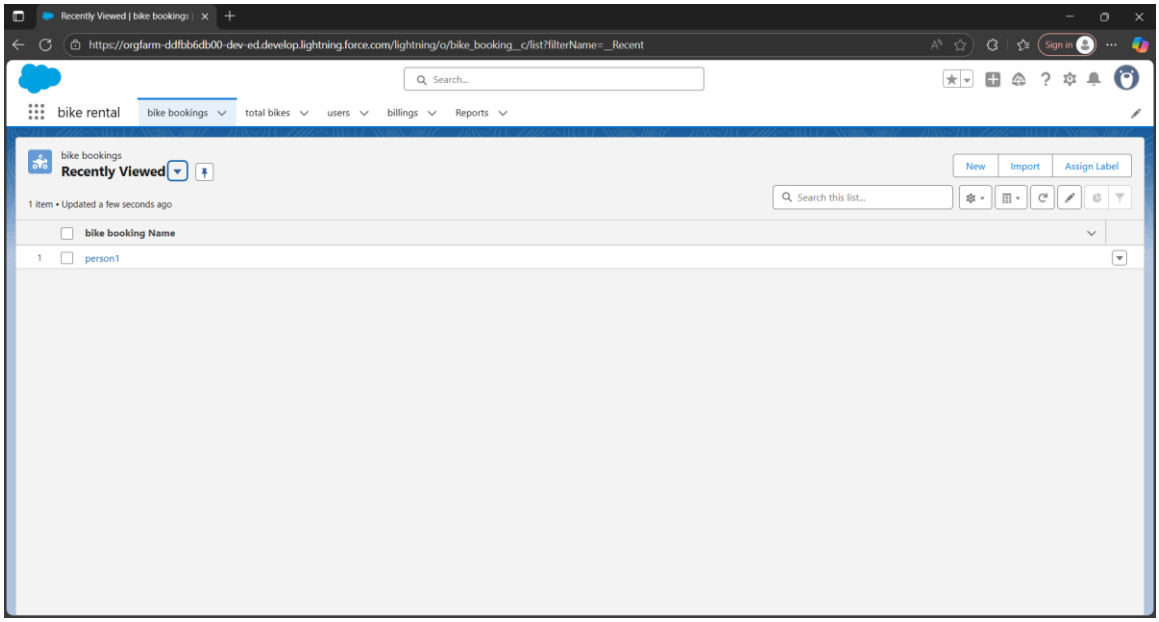


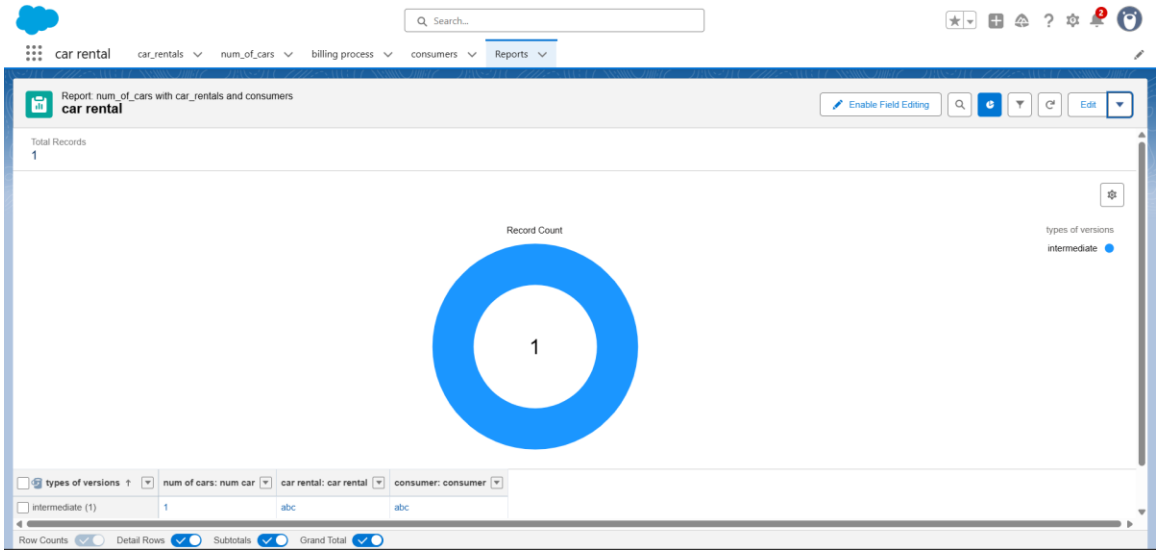
Dashboards:

• Donut Chart – Active vs Overdue Rentals

• Bar Chart – Rentals per Staff Member

• Line Chart – Revenue Over Time

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Reports
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Record Count
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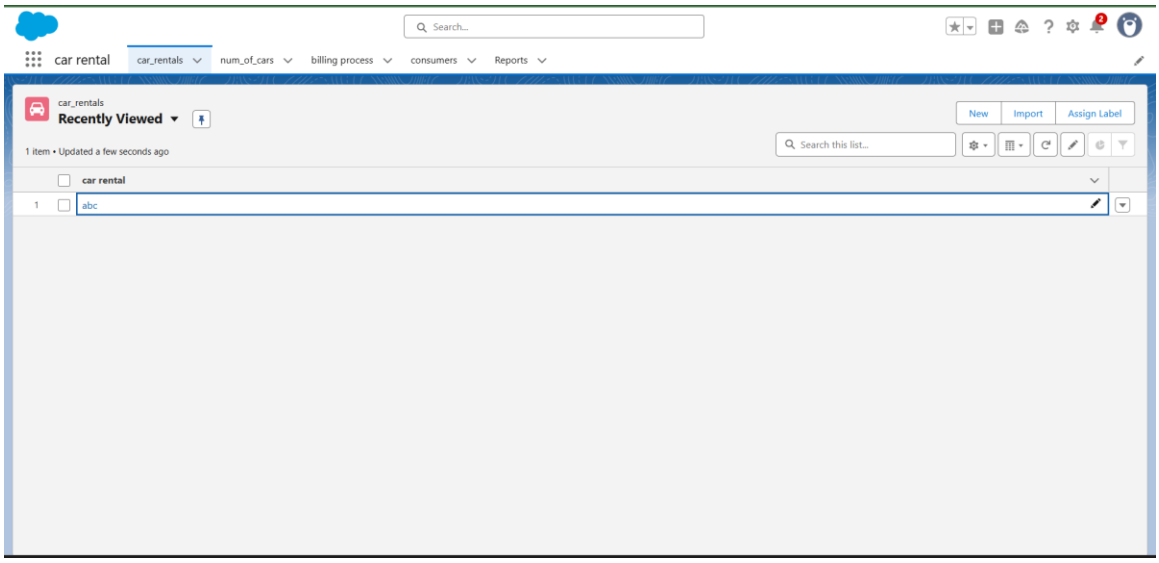
Grand Total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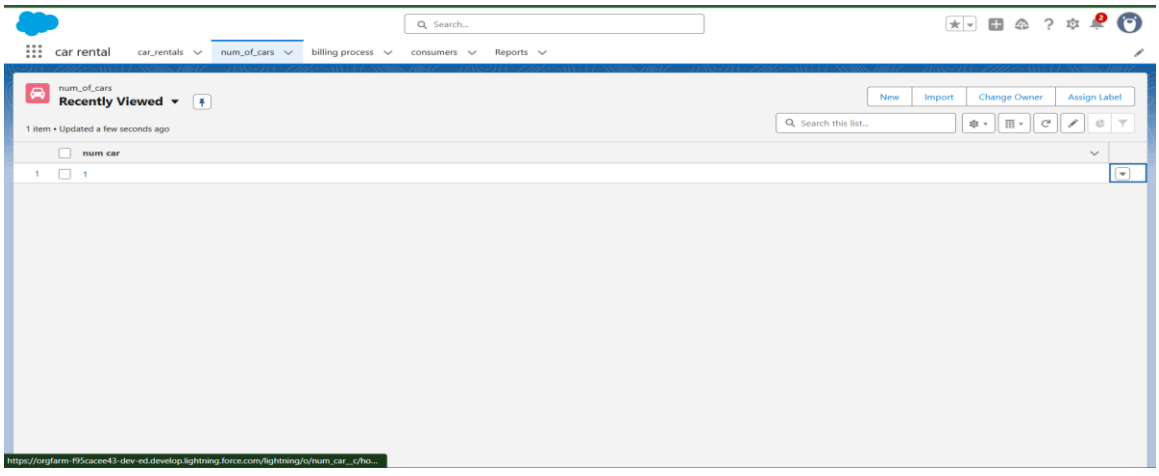
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Security:

• Field-Level Security for sensitive data
• Role-based access and audit trails

Phase 10: Final Presentation & Demo Day

Purpose: Showcase the Car Rental Management System features.

Pitch:
• Highlight challenges and Salesforce solution
Demo Steps:
1. Create Customer
2. Add Car
3. Book Rental
4. Trigger Notifications
5. Display Dashboards