Project Executable Files

This phase outlines the actual Salesforce configurations, data, and outcomes used and generated during the execution of your project:“A CRM Application for Public Transport Management System.”It ensures that all key project elements—objects, data, and output—are traceable and reusable for future reference or assessment.Where practical configurations and working modules of the project are documented for clarity, replication, and validation.

🔷 1. Project Files

Project Executable Files

The following project files were executed in the Salesforce Developer Org:

📁 **Milestone 1: Developer Account Setup**

📁 **Milestone 2: Object Creation**

📁 **Milestone 3: Tab Creation**

📁 **Milestone 4: Lightning App Setup**

📁 **Milestone 5: Field Creation**

📁 **Milestone 6: Page Layouts**

📁 **Milestone 7: Validation Rules**

📁 **Milestone 8: Flow Setup**

📁 **Milestone 9: Apex Trigger**

📁 **Milestone 10: Reports**

📁 **Milestone 11: Dashboards**

📁 **Milestone 12: Final Review**

List of Milestone Tasks with Supporting Screenshots and Descriptions

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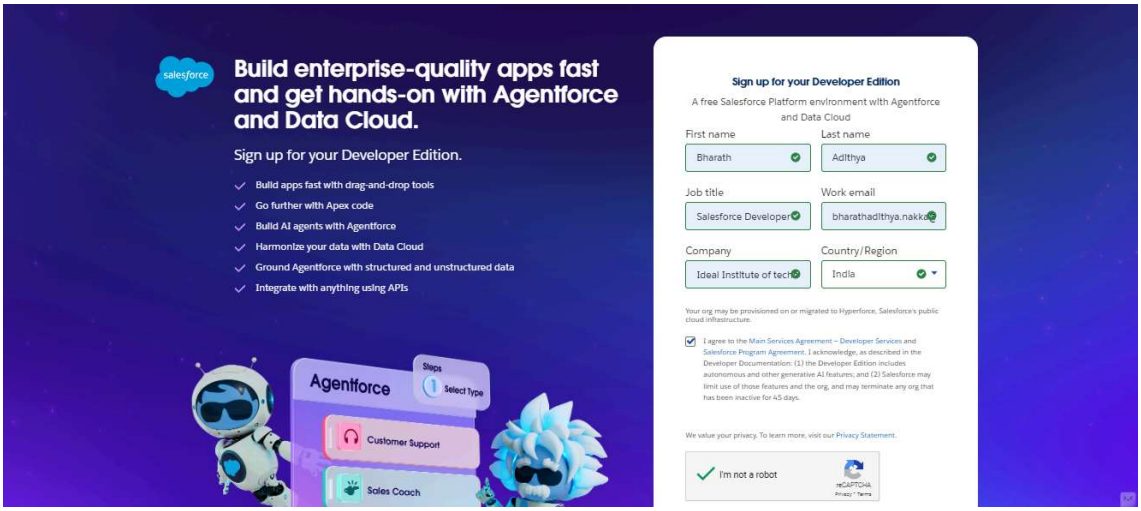
📁 Milestone 1: Developer Account Setup

- Created and activated a Salesforce Developer Org.
- Setup the base environment for CRM development.
- Verified access to Object Manager, Flow Builder, and App Builder.

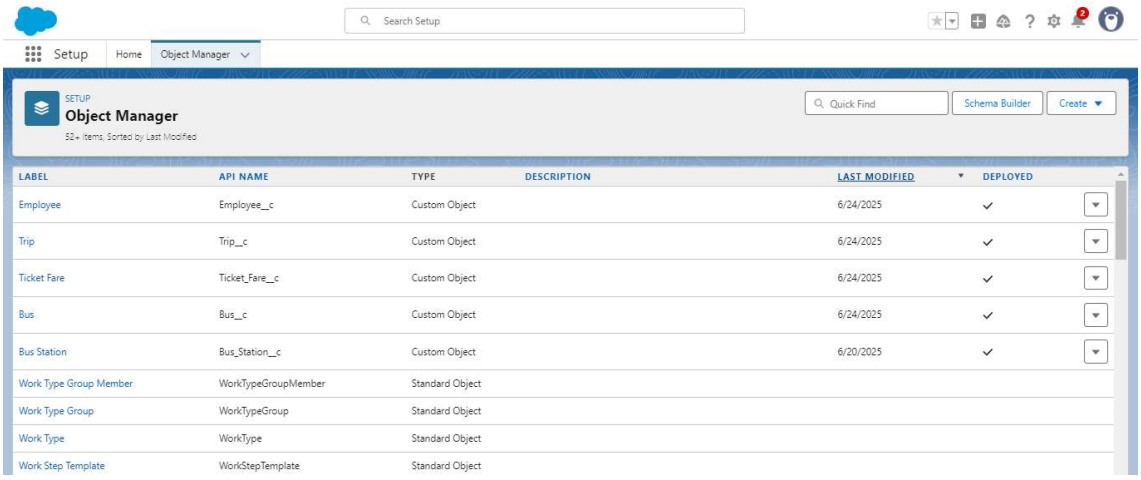
OUTPUT SCREENSHOT



📂 Milestone 2: Object Creation

- Created 5 custom objects:
    - Bus Station, Bus, Employee, Trip, and Ticket Fare.
- Established foundational schema for RTC data tracking.
- Configured relationships using lookup fields.

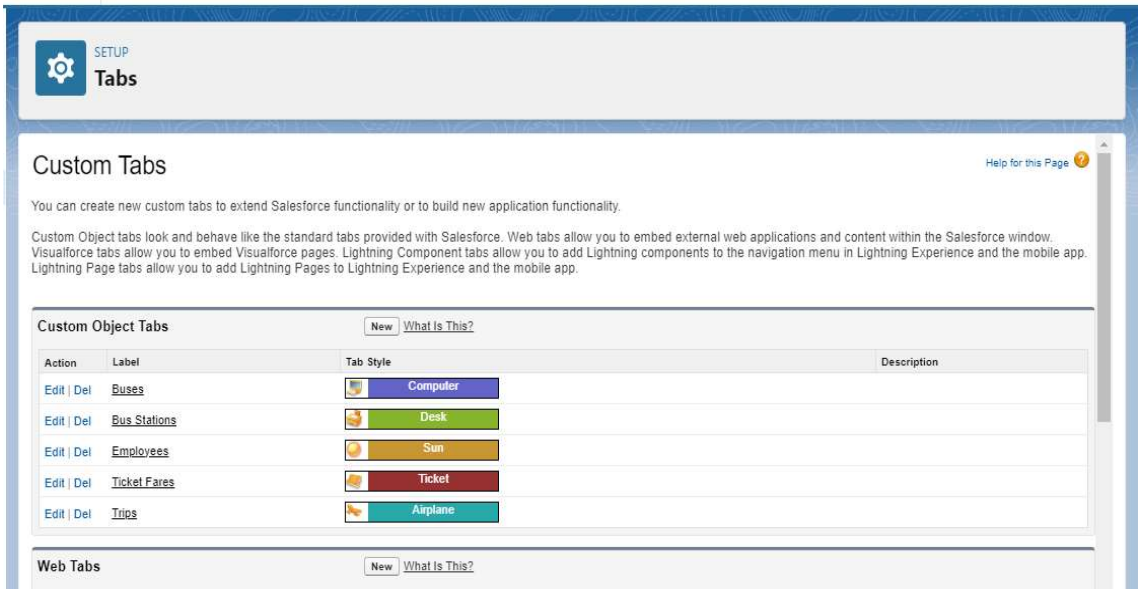
OUTPUT SCREENSHOT



📂 Milestone 3: Tab Creation

- Created tabs for each custom object.
- Enabled easy navigation and object access in the app.
- Ensured users can create/view records from the UI.

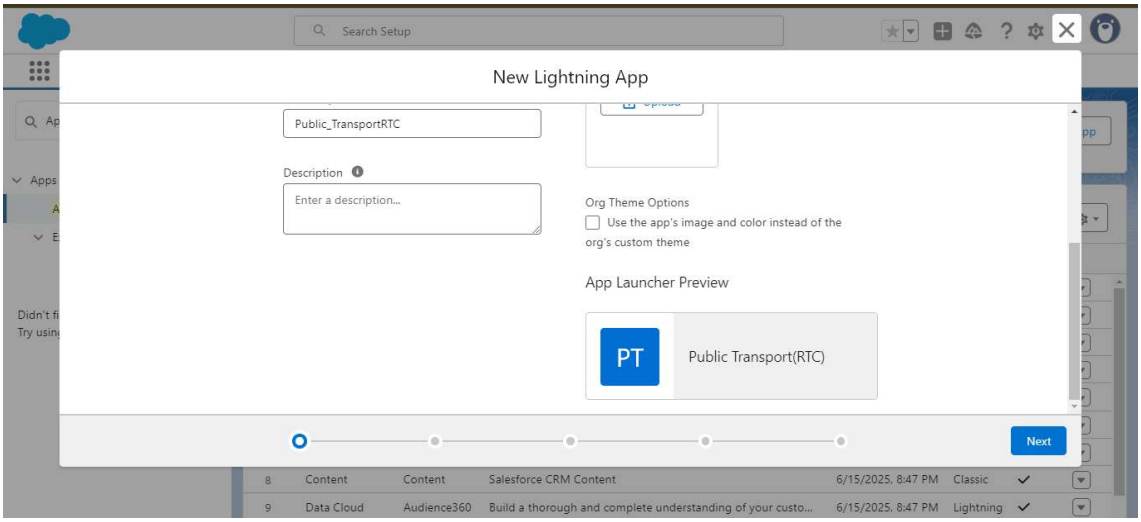
OUTPUT SCREENSHOT



📂 Milestone 4: Lightning App Setup

- Built a custom Lightning App named **"Public Transport RTC"**.
- Added relevant tabs to centralize operations.
- Simplified user workflow by grouping features.

OUTPUT SCREENSHOT



📂 Milestone 5: Field Creation

- Added custom and formula fields like:
    - Role (Picklist), Age, Experience, Fare, Passenger Count.
    - Implemented: `Total Fare = Fare × Passenger Count` formula.
- Linked Driver and Conductor to Trip via lookup fields.

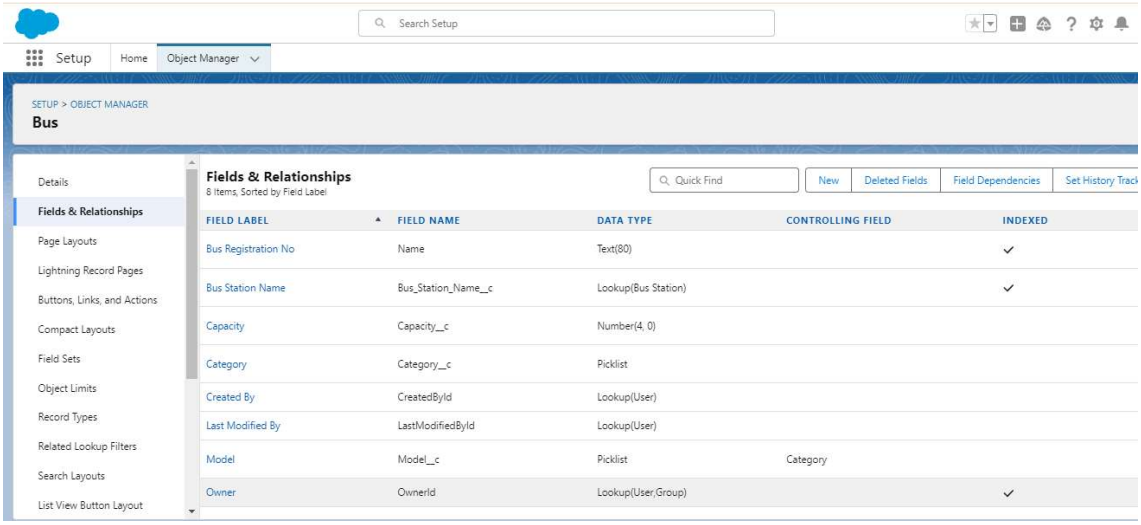
Milestone 5- Fields

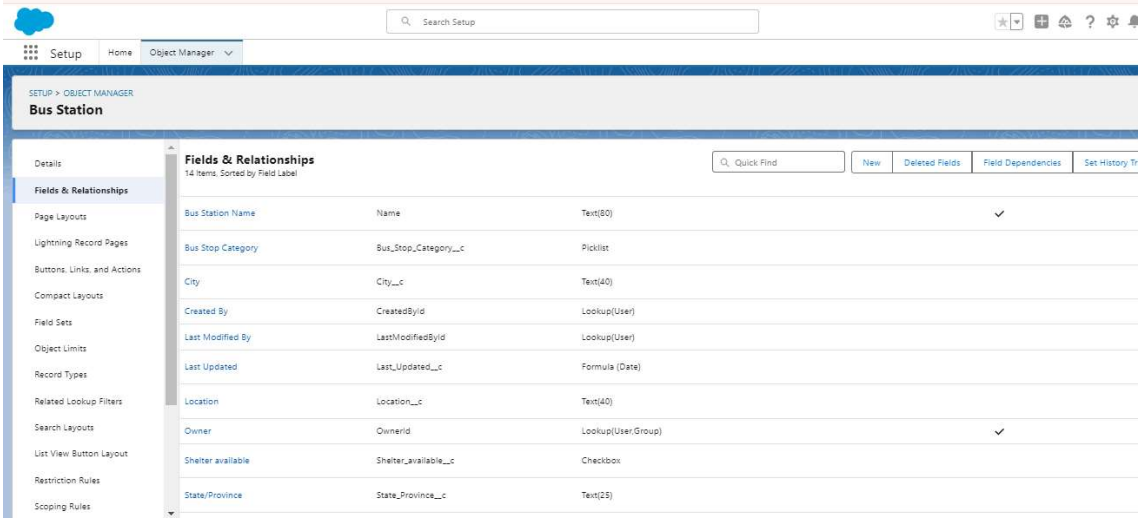
Object	Field Name	Data Type
Bus Station	Bus Station Name(Standard)	Text
	Bus Stop Category	Picklist(Unmanaged Bus Stop, Managed Bus Stop)
	Last Updated	Formula(Date)
	Amenities	Picklist(Multi-select)
	City	Text(40)
	Street	TextArea
	State/Province	Text(25)
	Zip/PostalCode	Text(10)
	Shelter Available	Checkbox
	Bench	Checkbox

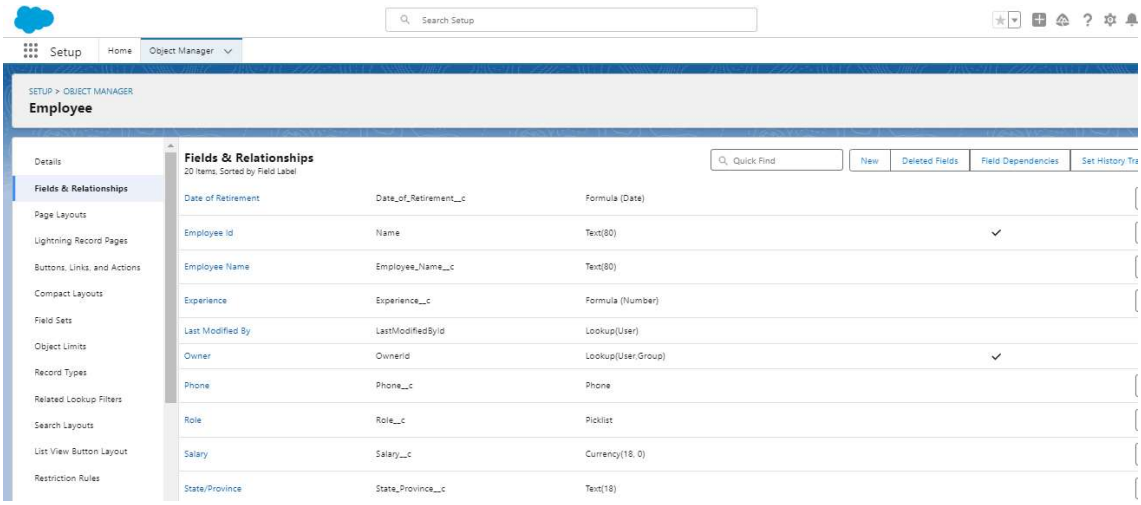
Bus	Bus Registration No (Standard)	Text
	Bus Station Name	Lookup(Bus Station)
	Capacity	Number(4,0)
	Category	Picklist
	Model	Picklist(Dependent on Category)
Trip	Trip No(Standard)	Text
	Trip Date	Date
	Bus No	Lookup(Bus)
	Route Name	Lookup(Ticket Fare)
	Arrival Time	Picklist
	Departure Time	Picklist
	Bus Starting Terminal	Text
	Destination Terminal	Text
	Driver Id	Lookup(Employee)
	Driver	Formula
	Conductor Id	Lookup(Employee)
	Conductor	Formula
	Estimated Travel Time	Number
	Frequency Per Day	Number(2,0)
	No. of Stops	Number(2,0)
	Passenger Count	Number(4,0)

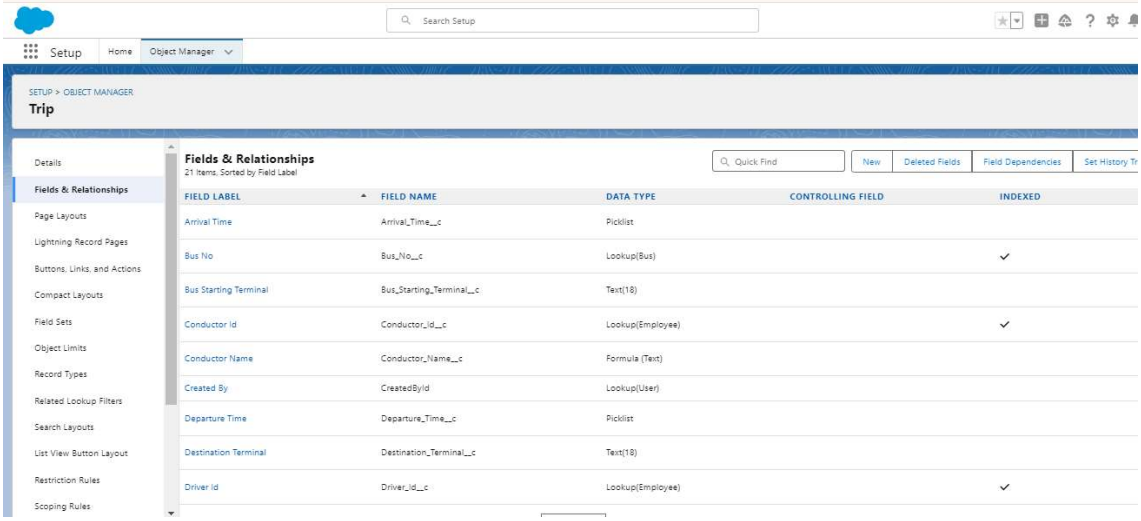
	Ticket Fare	Currency(16,2)
	Total Amount	Formula
Ticket Fare	Route Name(Standard)	Text
	Bus Model	Picklist
	Ticket Fare	Currency(10,2)
Employee	Employee Id(Standard)	Text
	Bus Station Name	Lookup(Bus Station)
	Employee Name	Text
	Role	Picklist
	Date of Birth	Date
	Age	Formula(Number)
	Work Place	Text
	Salary	Currency(18,0)
	Phone	Phone
	Date of Joining	Date
	Date of Retirement	Formula(Date)
	Experience	Formula(Number)
	Street	TextArea
	City	Text
	State/Province	Text
	Country	Text
	Zip/PostalCode	Text

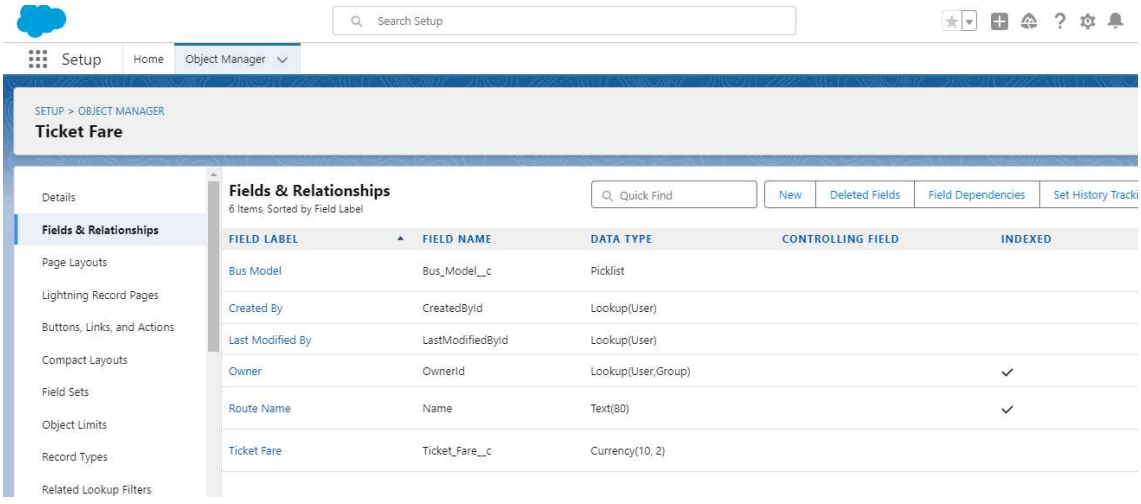
OUTPUT SCREENSHOT






Search Setup
Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Employee
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
Fields & Relationships
20 Items, Sorted by Field Label
Quick Find
New
Deleted Fields
Field Dependencies
Date of Retirement | Date_of_Retirement__c | Formula (Date)
Employee Id | Name | Text(80)
Employee Name | Employee_Name__c | Text(80)
Experience | Experience__c | Formula (Number)
Last Modified By | LastModifiedById | Lookup(User)
Owner | OwnerId | Lookup(User,Group)
Phone | Phone__c | Phone
Role | Role__c | Picklist
Salary | Salary__c | Currency(18, 0)
State/Province | State_Province__c | Text(18)

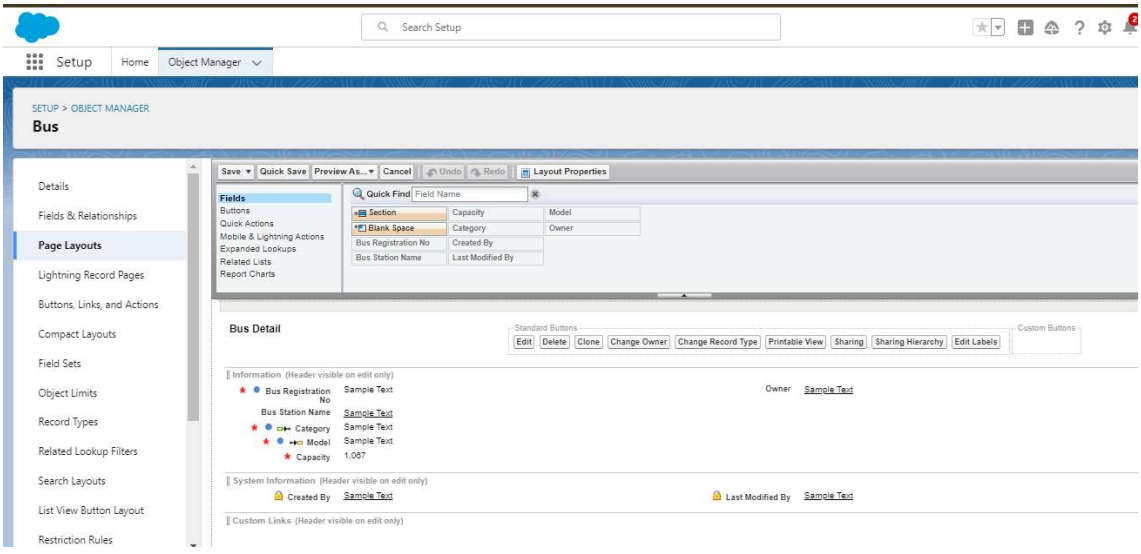

Search Setup
Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Trip
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Scoping Rules
Fields & Relationships
21 Items, Sorted by Field Label
Quick Find
New
Deleted Fields
Field Dependencies
FIELD LABEL | FIELD NAME | DATA TYPE | CONTROLLING FIELD | INDEXED
Arrival Time | Arrival_Time__c | Picklist
Bus No | Bus_No__c | Lookup(Bus)
Bus Starting Terminal | Bus_Starting_Terminal__c | Text(18)
Conductor Id | Conductor_Id__c | Lookup(Employee)
Conductor Name | Conductor_Name__c | Formula (Text)
Created By | CreatedById | Lookup(User)
Departure Time | Departure_Time__c | Picklist
Destination Terminal | Destination_Terminal__c | Text(18)
Driver Id | Driver_Id__c | Lookup(Employee)

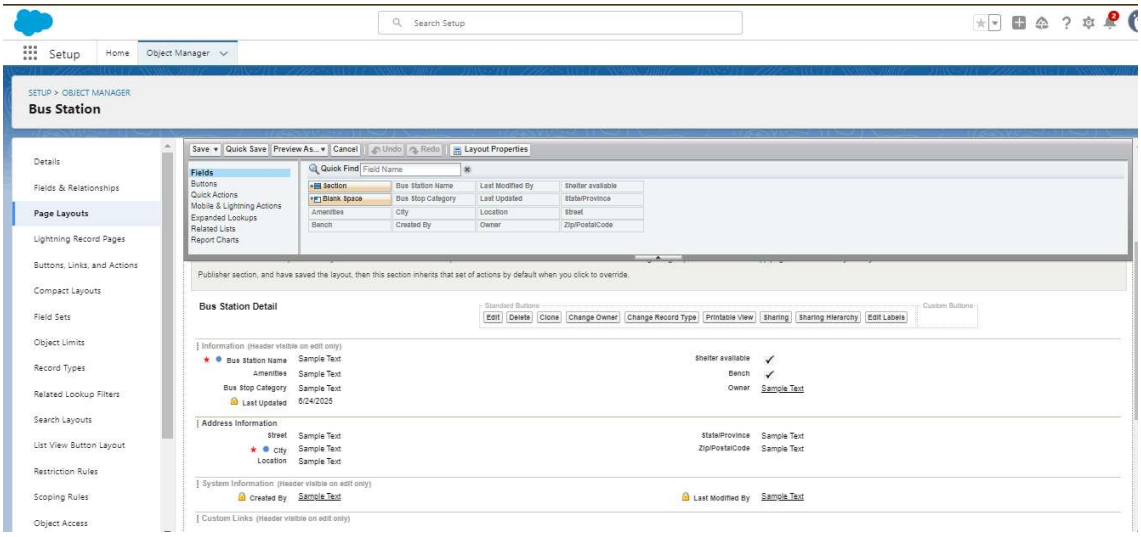

Search Setup
Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Ticket Fare
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Fields & Relationships
6 Items, Sorted by Field Label
Quick Find
New
Deleted Fields
Field Dependencies
FIELD LABEL | FIELD NAME | DATA TYPE | CONTROLLING FIELD | INDEXED
Bus Model | Bus_Model__c | Picklist
Created By | CreatedById | Lookup(User)
Last Modified By | LastModifiedById | Lookup(User)
Owner | OwnerId | Lookup(User,Group)
Route Name | Name | Text(80)
Ticket Fare | Ticket_Fare__c | Currency(10, 2)

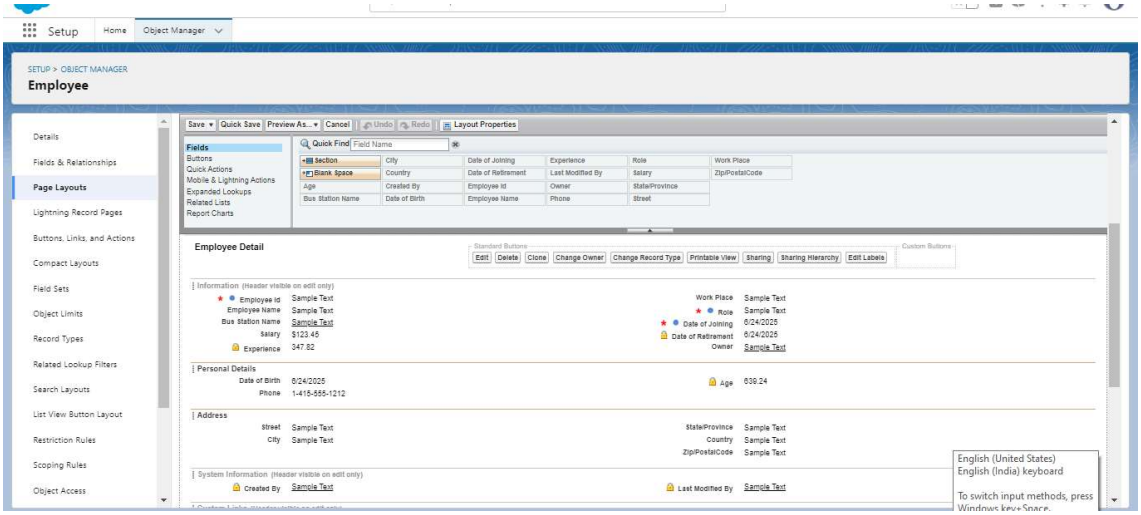
📂 Milestone 6: Page Layouts

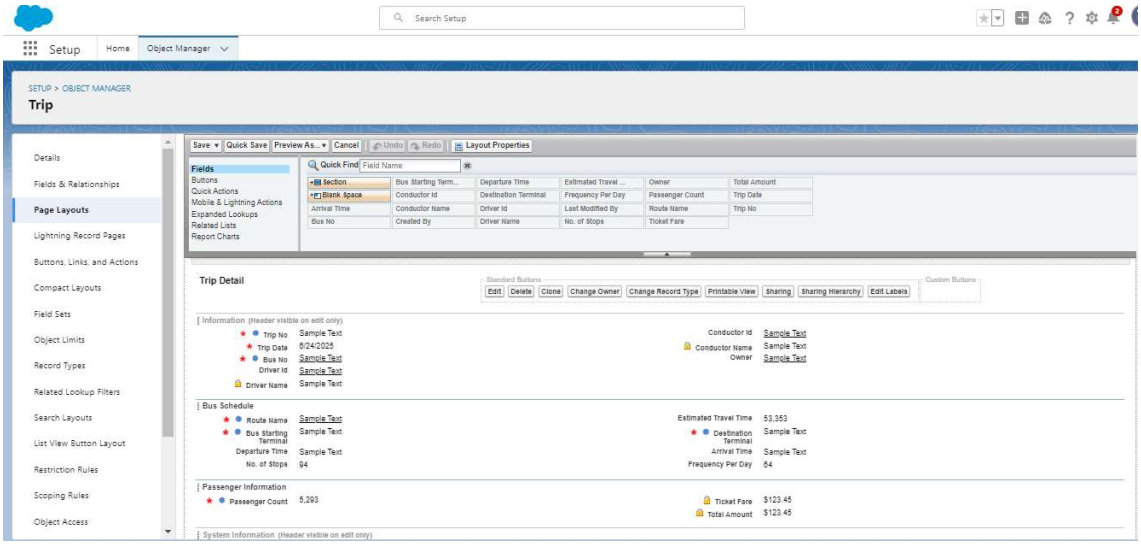
- Customized page layouts per object.
- Grouped fields logically for usability.
- Enhanced record readability and data entry experience.

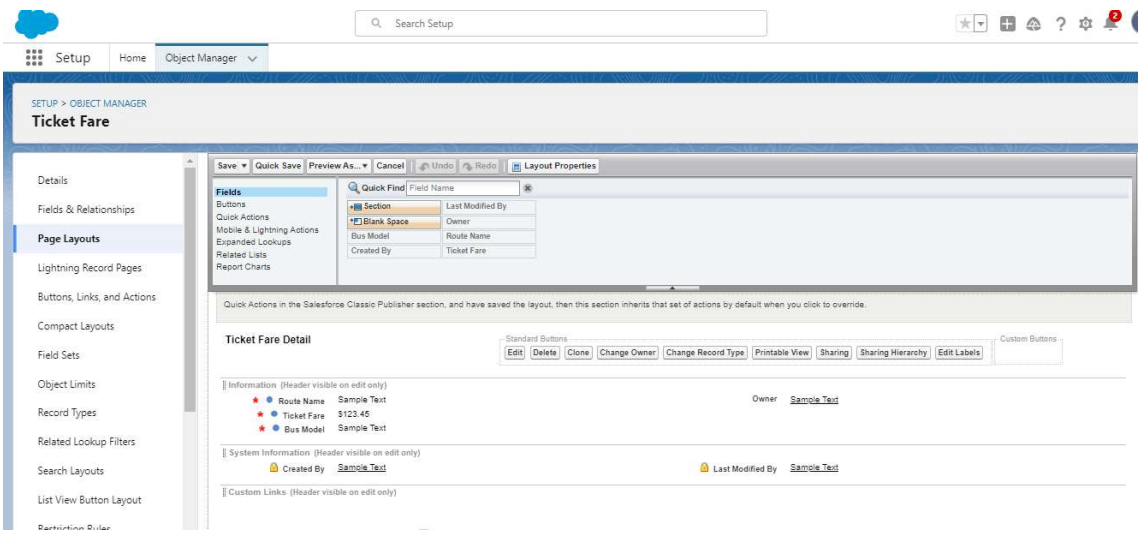
OUTPUT SCREENSHOT






Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Employee
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
Employee Detail
Information (Header visible on edit only)
Personal Details
Address
System Information (Header visible on edit only)


Search Setup
Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Trip
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
Trip Detail
Information (Header visible on edit only)
Bus Schedule
Passenger Information
System Information (Header visible on edit only)


Search Setup
Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Ticket Fare
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
Ticket Fare Detail
Information (Header visible on edit only)
System Information (Header visible on edit only)
Custom Links (Header visible on edit only)

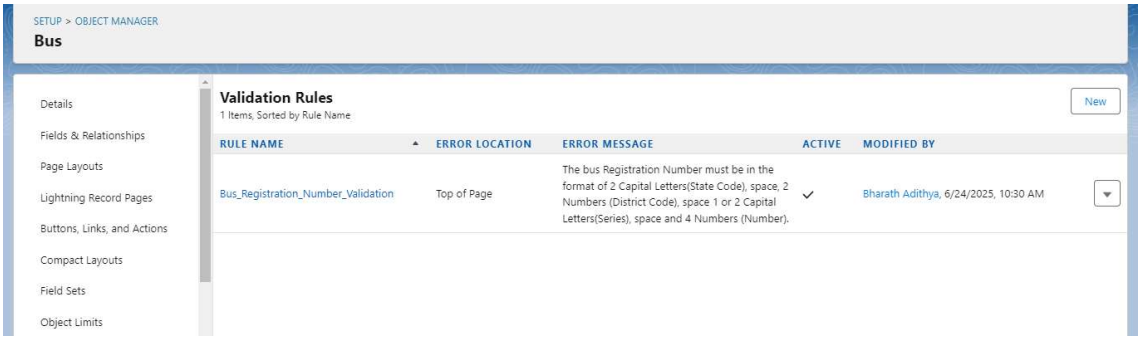
📁 Milestone 7: Validation Rules

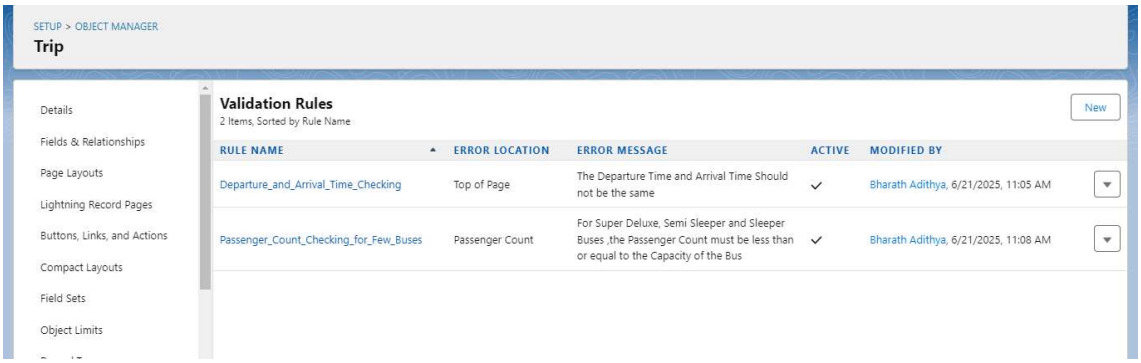
Enforced data quality with validations like:

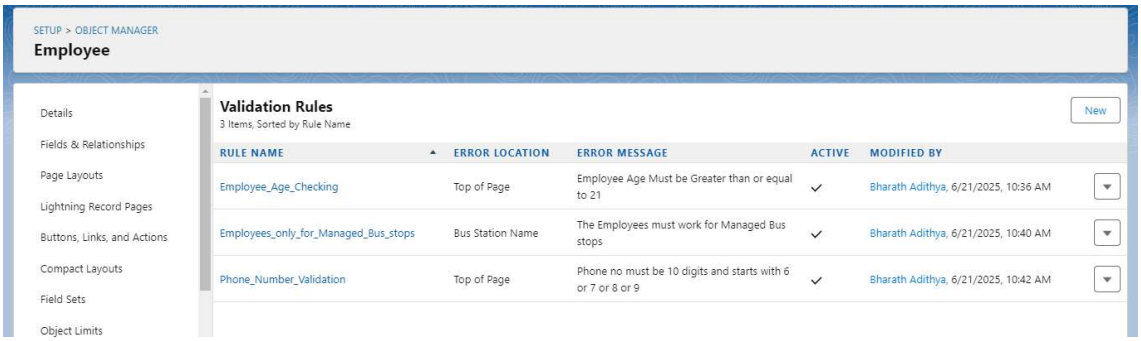
- Age ≥ 21, correct phone number format, required fields.

- Prevented invalid inputs and ensured system reliability.

OUTPUT SCREENSHOT



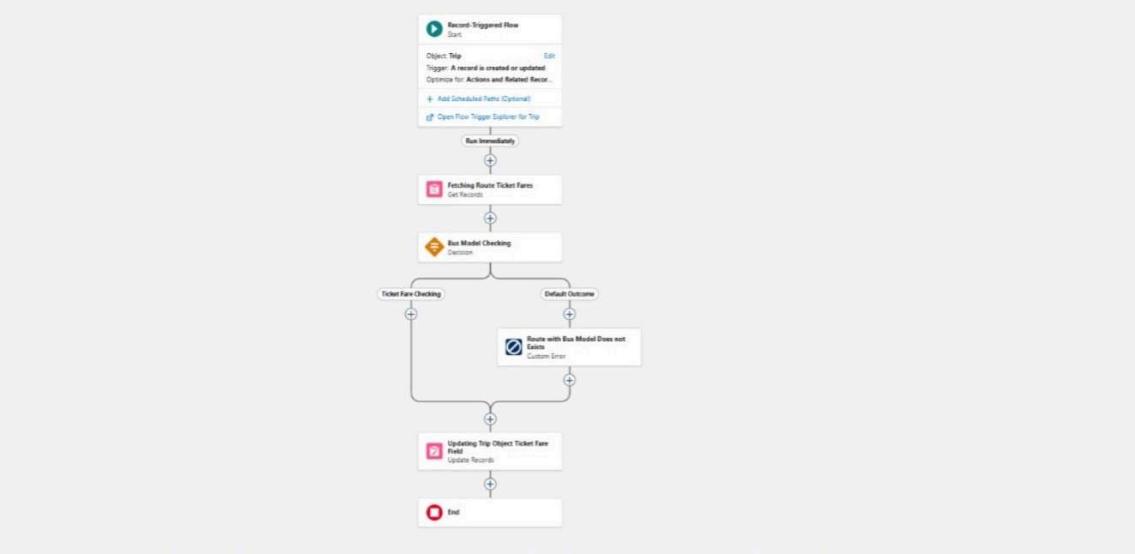




📁 Milestone 8: Flow Setup

- Designed a **record-triggered flow**:
    - Automatically fetches fare based on route + model.
- Improved automation and reduced manual input errors.

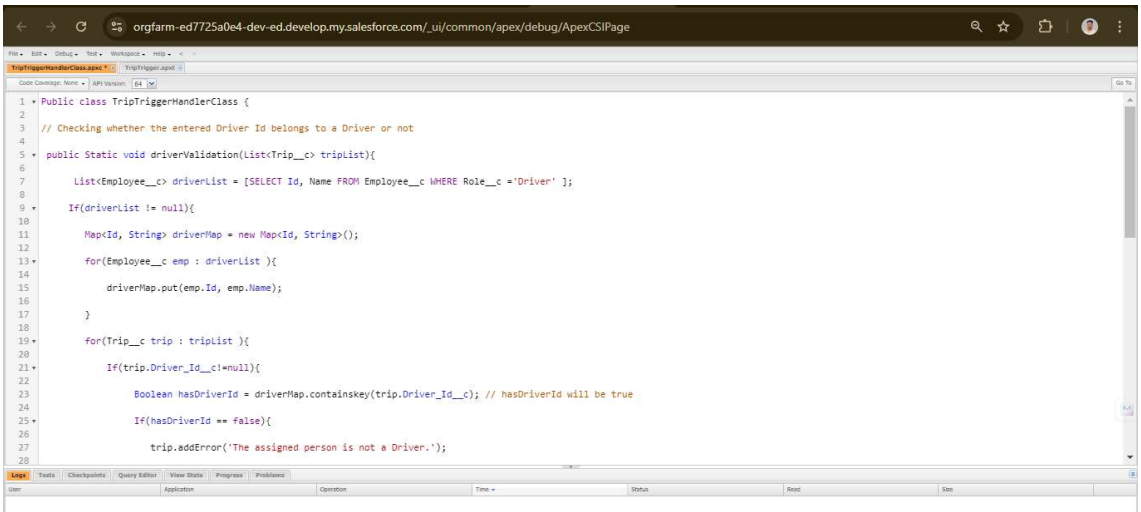
OUTPUT SCREENSHOT



📁 Milestone 9: Apex Trigger

- Developed a trigger to validate:
    - Only users with role “Driver” can be added as Driver.
    - Only “Conductor” can be added as Conductor.
- Ensured business logic is enforced at data level.

OUTPUT SCREENSHOT



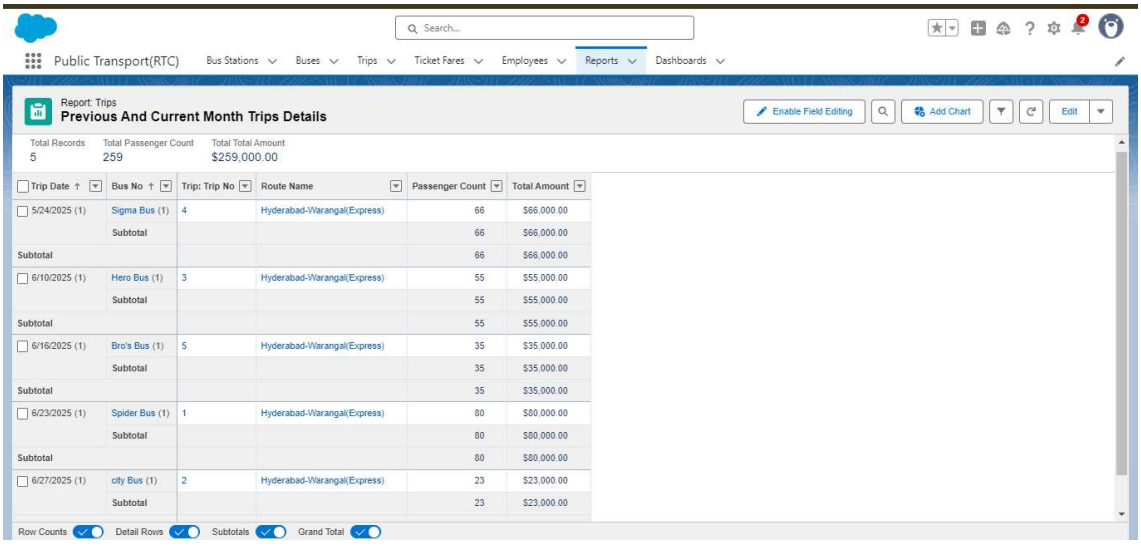
```
// Checking whether the entered conductor Id belongs to a Conductor or not

    public Static void conductorValidation(List<Trip__c> tripList){

        List<Employee__c> conductorList = [SELECT Id, Name FROM Employee__c WHERE Role__c ='Conductor' ];


      Map<Id, String> conductorMap = new Map<Id, String>();
        for(Employee__c emp : conductorList ){

            conductorMap.put(emp.Id, emp.Name);

        }
        for(Trip__c trip : tripList ){
            If(trip.Conductor_Id__c!=null){

                Boolean hasConductorId = conductorMap.containskey(trip.Conductor_Id__c); // hasConductorId will be true

                If(hasConductorId == false){

                   trip.addError('The assigned person is not a Conductor.');

                }
```

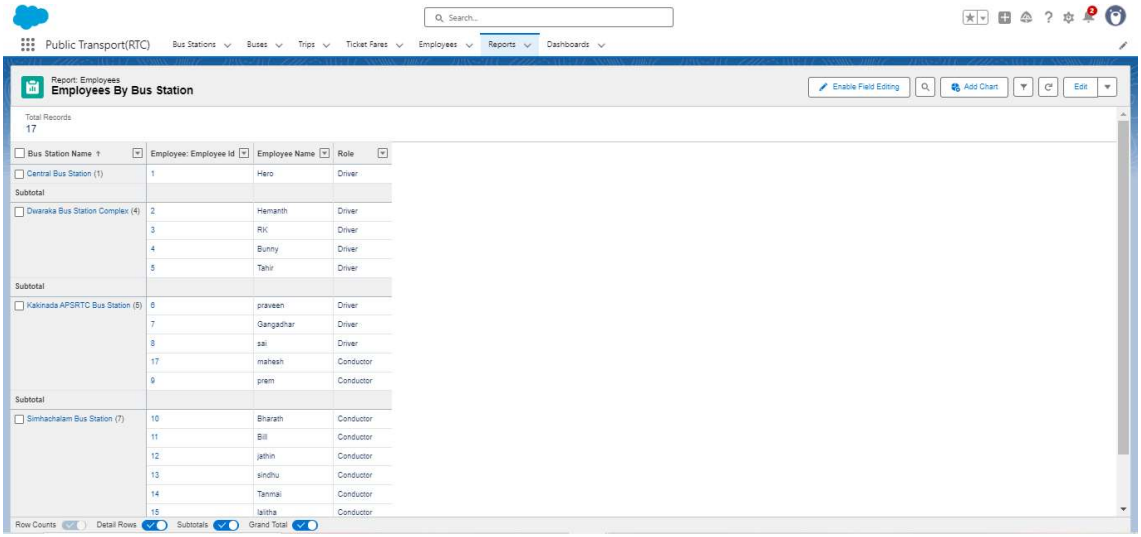
```
trigger TripTrigger on Trip__c (before insert, before update) {


    if(trigger.isBefore){

        if(trigger.isInsert || trigger.isUpdate){

            // Validating the Conductor Id in Trip is really a Conductor or not

            TripTriggerHandlerClass.driverValidation(trigger.new);


            // Validating the Conductor Id in Trip is really a Conductor or not

            TripTriggerHandlerClass.conductorValidation(trigger.new);

        }

    }

}
```

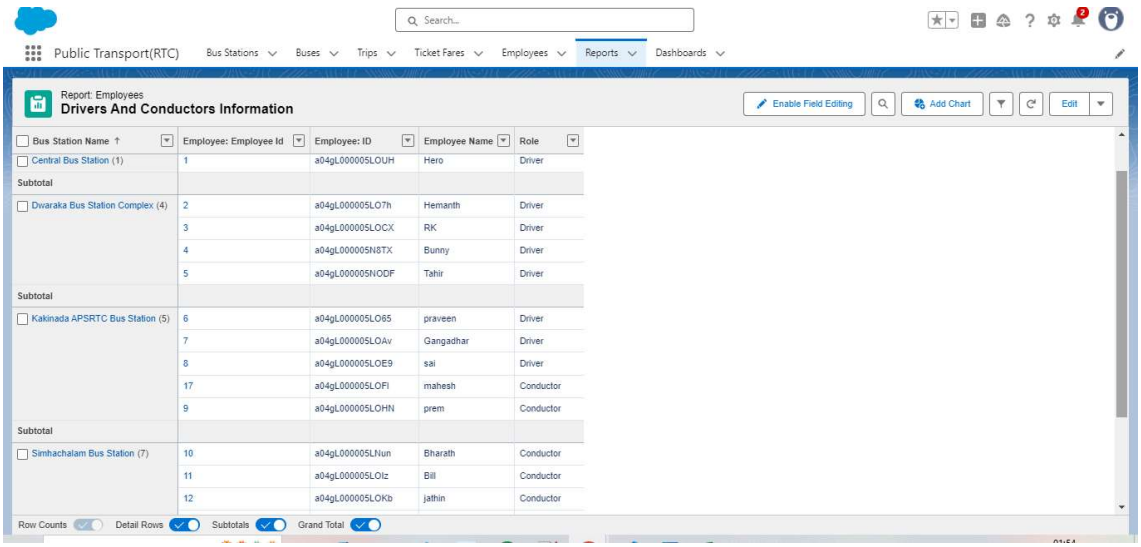
📂 Milestone 10: Reports

- Created reports for:
    - Employees per station, monthly revenue, trip counts.
- Used grouping, filters, and field summaries.
- Enabled data-driven decision-making.

OUTPUT SCREENSHOT



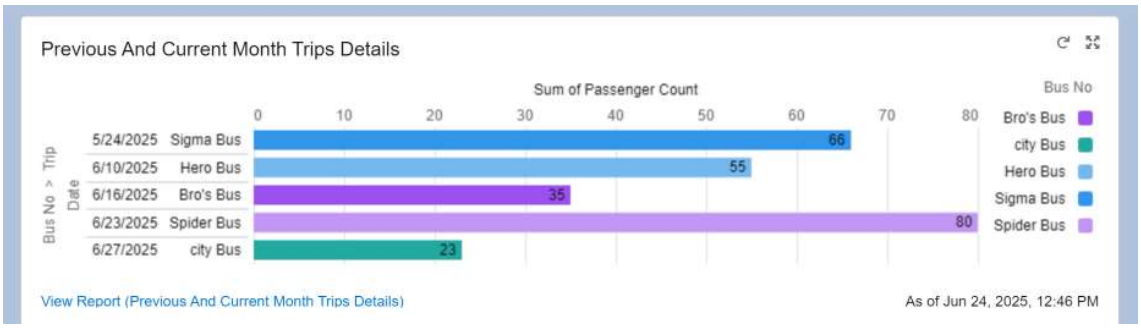

Search...
Public Transport(RTC)
Bus Stations
Buses
Trips
Ticket Fares
Employees
Reports
Dashboards
Report: Employees
Employees By Bus Station
Enable Field Editing
Add Chart
Edit
Total Records
17
Bus Station Name
Employee: Employee Id
Employee Name
Role
Central Bus Station (1) 1 Hero Driver
Subtotal
Dwaraka Bus Station Complex (4) 2 Hemanth Driver
3 RK Driver
4 Bunny Driver
5 Tahir Driver
Subtotal
Kakinada APSRTC Bus Station (5) 6 praveen Driver
7 Gangadhar Driver
8 sai Driver
17 mahesh Conductor
9 prem Conductor
Subtotal
Simhachalam Bus Station (7) 10 Bharath Conductor
11 Bill Conductor
12 jathin Conductor
13 sindhu Conductor
14 Tanmai Conductor
15 lalitha Conductor
Row Counts
Detail Rows
Subtotals
Grand Total


Search...
Public Transport(RTC)
Bus Stations
Buses
Trips
Ticket Fares
Employees
Reports
Dashboards
Report: Employees
Drivers And Conductors Information
Enable Field Editing
Add Chart
Edit
Bus Station Name
Employee: Employee Id
Employee: ID
Employee Name
Role
Central Bus Station (1) 1 a04gL00000SLOUH Hero Driver
Subtotal
Dwaraka Bus Station Complex (4) 2 a04gL00000SLO7h Hemanth Driver
3 a04gL00000SLOCX RK Driver
4 a04gL00000SN8TX Bunny Driver
5 a04gL00000SNODF Tahir Driver
Subtotal
Kakinada APSRTC Bus Station (5) 6 a04gL00000SLO65 praveen Driver
7 a04gL00000SLOAv Gangadhar Driver
8 a04gL00000SLOE9 sai Driver
17 a04gL00000SLOFI mahesh Conductor
9 a04gL00000SLOHN prem Conductor
Subtotal
Simhachalam Bus Station (7) 10 a04gL00000SLNun Bharath Conductor
11 a04gL00000SLOIz Bill Conductor
12 a04gL00000SLOKb jathin Conductor
Row Counts
Detail Rows
Subtotals
Grand Total

📂 Milestone 11: Dashboards

- Designed dashboards showing:
    - Revenue trends, trip performance, and role summary.
- Used bar, pie, and summary widgets for visualization.

OUTPUT SCREENSHOT



📂 Milestone 12: Final Review

- Conducted full system testing.
- Checked all object links, flows, triggers, reports.
- Confirmed the CRM is fully functional and stable.

🔷 2. Dataset

The system was tested with the following types of data:(Sample Records and Input Values Used During Testing)

Object	Sample Fields Used
Bus Station	Name: Visakhapatnam Central, Category: Managed
Bus	Model: Super Deluxe, Capacity: 45, Station: Visakhapatnam
Employee	Name: Rakesh, Role: Driver, Phone: 9876543210, DOB: 1980-06-14
Ticket Fare	Route: Hyderabad-Warangal (Express), Fare: ₹220
Trip	Route: Hyderabad-Warangal, Passengers: 34, Estimated Time: 4 hrs

📌 Note: All test records were created using Salesforce's UI and validated via flows and formula fields