

EV CHARGING STATION MANAGEMENT CRM

Project Overview:

The EV Charging Station Management System is a Salesforce-based CRM solution designed to streamline and digitize charging operations. It manages key entities such as charging stations, chargers, bookings, contacts, and maintenance records in one unified platform. Customers can easily search for available slots and book charging sessions through an interactive screen flow, while built-in validations ensure that no overlapping bookings occur, maximizing charger utilization. Booking confirmations are delivered either via on-screen alerts or through automated email templates for convenience. The system also provides powerful reporting features to track revenue, usage patterns, and overall station performance. Additionally, maintenance schedules can be recorded and monitored to ensure charger uptime and reliability. Administrators have complete visibility into customer activity, booking history, and operational performance, enabling better decision-making.

Objective:

Here are the objects (main entities) of your EV Charging Station Management System explained in 5 paragraph-style lines:

1. Charging Station – Represents each physical EV charging location, storing details like station name, city, capacity, and operational status.
2. Charger – Tracks individual charging units within a station, including type (fast/standard), availability, and maintenance status.
3. Booking – Manages customer reservations by recording time slots, assigned charger, customer details, and prevents overlapping schedules.
4. Contact (Customer) – Stores user information such as name, email, and booking history, enabling communication and personalized service.
5. Maintenance – Logs service schedules, repair history, and downtime for chargers, ensuring reliability and reducing operational risks.

□ Phase 1: Problem Understanding & Industry Analysis

□ **Goal:** To power up our understanding of the EV charging universe, identify the essential currents (requirements), and map out the entire energy grid of industry use cases before we even think about building our supercharged CRM!

1. Requirement Gathering

Example requirements:

- **Customers should be able to:**
 - Effortlessly search for nearby charging stations.
 - Instantly view real-time slot availability.
 - Seamlessly book slots and make secure online payments.
- **Admin/Station Managers should be able to:**
 - Efficiently add and manage charging stations.
 - Accurately track utilization and revenue.
 - Proactively monitor faulty chargers and raise urgent maintenance tickets.
- **Maintenance Staff should be able to:**
 - Promptly receive notifications of faulty equipment.
 - Swiftly update repair status.

-----2. Stakeholder Analysis

- **Admin (CRM Owner)** → Masterfully manages setup, diligently monitors all stations, and generates insightful reports.
- **Station Manager** → Expertly handles daily operations, deftly manages bookings, and meticulously oversees payments.
- **Customer (EV Owner)** → Intuitively searches, books, pays, and charges their vehicle with ease.
- **Maintenance Staff** → Skillfully fixes faulty stations, precisely logs service requests, and promptly updates status.

- **Finance Team** → Thoroughly reviews billing, accurately tracks revenue, and prepares comprehensive reports.

-----3. Business Process Mapping

Booking flow:

Customer searches station → Views available slots → Books a slot → Pays → Slot reserved → Charging complete → Usage & revenue logged → Reports generated.

Maintenance flow:

Station flagged faulty → Maintenance Staff notified → Repair completed → Status updated → Station available again.-----4. Industry-Specific Use Case Analysis

- **Challenges in EV Industry:**
 - High demand but limited charging infrastructure.
 - Urgent need for real-time slot visibility.
 - Diverse charger types (slow/AC, fast/DC) requiring smart management.
 - Maintenance downtime significantly impacts customers.
- **Our CRM Solution:**
 - Optimizes slot management to flawlessly avoid double booking.
 - Integrates payments for a smooth transaction experience.
 - Provides dynamic dashboards and insightful reports.
 - Includes robust maintenance tracking for uninterrupted service.

-----5. AppExchange Exploration

- Some existing EV/IoT apps primarily focus on **charger hardware monitoring**.
- Few CRMs truly emphasize **customer booking + revenue tracking**.
- **Decision:** Forge a **custom Salesforce CRM** specifically tailored for EV Charging.

-----✓ **Deliverable for Phase 1:**

- Crystal-clear requirements.

- Comprehensive stakeholder mapping.
- Streamlined business process flows.
- In-depth analysis of industry-specific challenges and a strategic solution plan.

Phase 2 :org setup and configuration

Step1-

Go to salesforce developer org id

The screenshot shows the Salesforce Seller Home dashboard. The top navigation bar includes links for Sales, Home, Opportunities, Leads, Tasks, Files, Accounts, Contacts, Campaigns, Dashboards, Reports, Chatter, Groups, and More. The main content area is titled "Seller Home" and includes a greeting: "Good morning, Amit Kumar. Let's get selling!". There are three main cards: "Close Deals" (Opportunities owned by me and closing this quarter), "Plan My Accounts" (Accounts owned by me), and "Grow Relationships" (Contacts owned by me and created in the last 90 days). Each card displays a circular progress indicator and a list of metrics: "\$0 Open", "\$0 Won", "\$0 Lost" for Close Deals; "0 Upcoming Activity", "0 Past Activity", "0 No Activity" for Plan My Accounts; and "0 Upcoming Activity", "0 Past Activity" for Grow Relationships. A "Stay ahead of incidents" notification is also visible.

Click on the setup and search for company information(In one salesforce developer org we can have only one company)

The screenshot shows the Salesforce Setup page for Company Information. The left sidebar contains a search bar and a list of settings: Company Settings, Calendar Settings, Company Information (selected), Data Protection and Privacy, Fiscal Year, Holidays, Language Settings, and My Domain. The main content area is titled "Company Information" and displays the organization's profile. The organization name is "EV Charging Station Management CRM". The primary contact is "OrgFarm EPIC". The address is "India". The fiscal year starts in "January". The default language is "English (India)". The default time zone is "(GMT+05:30) India Standard Time (Asia/Kolkata)". The currency locale is "Hindi (India) - INR". The used data space is "342 KB (7%)". The used file space is "17 KB (0%)". The API requests, last 24 hours, are "0 (15,000 max)". The streamlines API events, last 24 hours, are "0 (15,000 max)".

Step2

Fiscal year settings



SETUP Holidays

Holidays are dates and times at which business hours are suspended. These dates and times, when associated with business hours, also suspend any escalation rules associated with business hours.

Add or remove business hours to holidays to suspend business hours and escalation rules during the holidays.

[Business Hours \[1\]](#)

Holiday Detail

[Edit](#) [Delete](#)

Holiday Name	Independence day
Description	national holiday
Date and Time	8/15/2026 All Day
Recurring Holiday	Occurs every August 15 effective 8/15/2025
Created By	Amit Kumar Mahatha 9/20/2025, 11:15 PM
Last Modified By	Amit Kumar Mahatha 9/20/2025, 11:15 PM

[Edit](#) [Delete](#)

Business Hours

[Add/Remove](#)

[Business Hours Help](#) ?

Business Hours Name	Time Zone
station hours	(GMT+05:30) India Standard Time (Asia/Kolkata)

Linked with the business hours “Station Hours”

Step5:

Email setup , when ever any user will book charging point a confirmation mail will go through this mail



SETUP Organization-Wide Addresses

Organization-Wide Email Addresses

An org-wide email address allows each user in a user profile to send email using this address. All messages use the same display name and email address. You can also designate an org-wide email address for unmonitored mailboxes that require a verified address.

WARNING: A VERIFIED email address is needed for: Default No-Reply Address


Organization-Wide Email Addresses for User Selection and Default No-Reply Use						
Add Previous Page Next Page						
Actions	Display Name	Email Address	Allowed Profiles	Status	Created Date	Purpose
Edit Del	Amit	mahathaamitk@gmail.com	No Access	Verification Request Sent 9/20/2025 Resend	9/20/2025	User Selection
Previous Page Next Page						

Step5:

Create roles (hierarchy)

Admin (top)

- Station Manager
 - Customer Agent
 - Maintenance Staff

 **SETUP**
Roles

Role

Maintenance Staff

Help for this Page ?

Below is the list of users assigned to this role. Click Edit to modify the role name. Click Assign Users to Role to assign existing users to this role. Click New User to create a user for this role.

Hierarchy: EV Charging Station Management CRM » [Admin](#) » [Station Manager](#) » Maintenance Staff

Siblings: [Customer Agent](#)

[Users in Maintenance Staff Role](#) (0)

Role Detail


Edit

Delete

Label	Maintenance Staff	Role Name	Maintenance_Staff
This role reports to	Station Manager	Role Name as displayed on reports	Maintenance Staff
Modified By	Amit Kumar Mahatha , 9/21/2025, 12:52 AM	Sharing Groups	Role , Role and Internal Subordinates
Opportunity Access	Users in this role can edit all opportunities associated with accounts that they own, regardless of who owns the opportunities		
Case Access	Users in this role can edit all cases associated with accounts that they own, regardless of who owns the cases		

Step6

Profile setup

 **SETUP**
Profiles

Profile

Customer Agent Profile

Help for this Page ?

Users with this profile have the permissions and page layouts listed below. Administrators can change a user's profile by editing that user's personal information.

If your organization uses Record Types, use the Edit links in the Record Type Settings section below to make one or more record types available to users with this profile.

[Login IP Ranges](#) (0) | [Enabled Apex Class Access](#) (0) | [Enabled Visualforce Page Access](#) (0) | [Enabled External Data Source Access](#) (0) | [Enabled Named Credential Access](#) (0) | [Enabled External Credential Principal Access](#) (0) | [Enabled Custom Metadata Type Access](#) (0) | [Enabled Custom Setting Definitions Access](#) (0) | [Enabled Flow Access](#) (0) | [Enabled Service Presence Status Access](#) (0) | [Enabled Custom Permissions](#) (0)

Profile Detail

Edit

Clone

Delete

View Users

Name	Customer Agent Profile		
User License	Salesforce	Custom Profile	✓
Description			
Created By	Amit Kumar Mahatha , 9/21/2025, 1:49 AM	Modified By	Amit Kumar Mahatha , 9/21/2025, 1:49 AM

Step7

Permission setup



... > PERMISSION SET 'REPORTS_ACCESS' > MANAGE ASSIGNMENTS

Reports_Access

Assignment Summary

Full Name	User License	Expires On	Time Zone	Status
Admin Administrator	Salesforce Platform			Success

Step8:

Creating custom objects



Setup

Home

Object Manager



SETUP

Object Manager

1 Items, Sorted by Label

maintenance

Schema Builder

Create

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Maintenance	Maintenance__c	Custom Object		9/21/2025	✓

Step9:

Setting up custom object setting for profiles



SETUP

Profiles

Profile

Station_Manager_Profile

Help for this Page

Users with this profile have the permissions and page layouts listed below. Administrators can change a user's profile by editing that user's personal information.

If your organization uses Record Types, use the Edit links in the Record Type Settings section below to make one or more record types available to users with this profile.

[Login IP Ranges \[0\]](#) | [Enabled Apex Class Access \[0\]](#) | [Enabled Visualforce Page Access \[0\]](#) | [Enabled External Data Source Access \[0\]](#) | [Enabled Named Credential Access \[0\]](#) | [Enabled External Credential Principal Access \[0\]](#) | [Enabled Custom Metadata Type Access \[0\]](#) | [Enabled Custom Setting Definitions Access \[0\]](#) | [Enabled Flow Access \[0\]](#) | [Enabled Service Presence Status Access \[0\]](#) | [Enabled Custom Permissions \[0\]](#)

Profile Detail

Edit Clone Delete View Users

Name	Station_Manager_Profile		
User License	Salesforce	Custom Profile	✓
Description			
Created By	Amit Kumar Mahatha	Modified By	Amit Kumar Mahatha
	9/21/2025, 1:36 AM		9/21/2025, 6:49 AM


Page Layouts

Standard Object Layouts

Global [Global Layout](#)
View Definition 1

Location Group Assignment [Location Group Assignment Layout](#)
View Definition 1


Step10: Sharing settings


 **SETUP**


Sharing Settings


Work Plan	Private	Private	<input checked="" type="checkbox"/>
Work Plan Template	Private	Private	<input checked="" type="checkbox"/>
Work Step Template	Private	Private	<input checked="" type="checkbox"/>
Work Type	Private	Private	<input checked="" type="checkbox"/>
Work Type Group	Public Read/Write	Private	<input checked="" type="checkbox"/>
Booking	Public Read/Write	Private	<input checked="" type="checkbox"/>
Charger	Public Read/Write	Private	<input checked="" type="checkbox"/>
Charging station	Private	Private	<input checked="" type="checkbox"/>
Maintenance	Public Read Only	Private	<input checked="" type="checkbox"/>
student	Public Read/Write	Private	<input checked="" type="checkbox"/>


Other Settings

Standard Report Visibility ☒ 

Manual User Record Sharing ☐ 

Manager Groups ☐ 


Secure guest user record access ☒ 

Require permission to view record names in lookup fields ☐ 

Save

Cancel

Step 11: Create sharing rules for manager


 **SETUP**

Sharing Settings


Note: "Roles and subordinates" includes all users in a role, and the roles below that role.


You can use sharing rules only to grant wider access to data, not to restrict access.

Step 1: Rule Name

Label 

Share_Booking_with_Manag

Rule Name 

Share_Booking_with_Manag 

Description

Step 2: Select your rule type

Rule Type

☒ Based on record owner

☐ Based on criteria

Step 3: Select which records to be shared

Booking: owned by members of

Roles

Customer Agent

Step 4: Select the users to share with

Share with

Step12: Login hours setup

SETUP
Profiles

Select the days and hours that users with this profile are allowed to log in. Note that all times are exact times specific to a time zone. Login hours will be applied at those exact times even for users in different time zones.

Save Cancel

All times are in (GMT+05:30) India Standard Time (Asia/Kolkata)

Day	Start Time	End Time	
Sunday	8:00 AM	10:00 PM	Clear times
Monday	8:00 AM	10:00 PM	Clear times
Tuesday	8:00 AM	10:00 PM	Clear times
Wednesday	8:00 AM	10:00 PM	Clear times
Thursday	8:00 AM	10:00 PM	Clear times
Friday	8:00 AM	10:00 PM	Clear times
Saturday	8:00 AM	10:00 PM	Clear times

[Clear all times](#)

Save Cancel

Step13:

IP ranges setup(nahi kiye hai)

SETUP
Profiles

Login IP Ranges

[Help for this Page](#)

Enter the range of valid IP addresses from which users with this profile can log in.

Save Cancel

Please specify IP range Required Information

Start IP Address	103.25.202.10	End IP Address	103.25.202.50
Description	office IP address		

Save Cancel

Step14:

Lightning setup

New Lightning App

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

App Details


*App Name ⓘ

*Developer Name ⓘ

Description ⓘ

App Branding

Image ⓘ



Clear

Primary Color Hex Value ⓘ

Next

Utility settings(appears at bottom)

New Lightning App

Utility Items (Desktop Only)

Give your users quick access to productivity tools and add background utility items to your app.

Add Utility Item

Utility Bar Alignment ⓘ

Default

History

- Recent Items
- Notes

PROPERTIES

History

↑
↓
Remove

Utility Item Properties

Label ⓘ

Back

Next

Creating the custom objects tabs

⚙️

SETUP






Tabs

Custom Tabs

[Help for this Page](#)

You can create new custom tabs to extend Salesforce functionality or to build new application functionality.

Custom Object tabs look and behave like the standard tabs provided with Salesforce. Web tabs allow you to embed external web applications and content within the Salesforce window. Visualforce tabs allow you to embed Visualforce pages. Lightning Component tabs allow you to add Lightning components to the navigation menu in Lightning Experience and the mobile app. Lightning Page tabs allow you to add Lightning Pages to Lightning Experience and the mobile app.

Custom Object Tabs			
		New	What Is This?
Action	Label	Tab Style	Description
Edit Del	Bookings	 Pencil	
Edit Del	Chargers	 Lightning	
Edit Del	Charging stations	 Radar dish	
Edit Del	Maintenances	 Hammer	
Edit Del	students	 Desk	

Phase 3: Data Modeling & Relationships

- 1. Custom object -> created custom objects (chargers , charging station ,Booking ,Maintenance)

charger

SETUP > OBJECT MANAGER

Charger

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Details

Description

API Name

Charger__c

Custom

✓

Singular Label

Charger

Plural Label

Chargers

Enable Reports

Track Activities

Track Field History

Deployment Status

Deployed

Help Settings

Standard salesforce.com Help Window

Edit

Delete

Charging station

SETUP > OBJECT MANAGER

Charging station

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Details

Description

API Name

Charging_station__c

Custom

✓

Singular Label

Charging station

Plural Label

Charging stations

Enable Reports

Track Activities

Track Field History

Deployment Status

Deployed

Help Settings

Standard salesforce.com Help Window

Edit

Delete

Booking

SETUP > OBJECT MANAGER

Booking

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Restriction Rules
Scoping Rules

Details Edit Delete

Description

API Name

Booking__c

Custom

✓

Singular Label

Booking

Plural Label

Bookings

Enable Reports

Track Activities

Track Field History

Deployment Status

Deployed

Help Settings

Standard salesforce.com Help Window

Maintenance

SETUP > OBJECT MANAGER

Maintenance

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Restriction Rules
Scoping Rules

Details Edit Delete

Description

API Name

Maintenance__c

Custom

✓

Singular Label

Maintenance

Plural Label

Maintenances

Enable Reports

Track Activities

Track Field History

Deployment Status

Deployed

Help Settings

Standard salesforce.com Help Window

2.Fields and relationship

Chargers

SETUP > OBJECT MANAGER

Charger

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Restriction Rules
Scoping Rules

Q, Quick Find

New

Deleted Fields

Field Dependencies

Set History Tracking

6 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Charger Name	Name	Text(80)		✓	▼
Charging station	Charging_station__c	Lookup(Charging station)		✓	▼
Created By	CreatedById	Lookup(User)			
Last Modified By	LastModifiedById	Lookup(User)			
Owner	OwnerId	Lookup(User,Group)		✓	
Status	Status__c	Picklist			▼

Charging station

<div> <div>SETUP > OBJECT MANAGER</div> <div>Charging station</div> </div>					
Details	<div> <div>Fields & Relationships</div> <div>6 Items, Sorted by Field Label</div> <div> <div>Q, Quick Find</div> <div>New</div> <div>Deleted Fields</div> <div>Field Dependencies</div> <div>Set History Tracking</div> </div> </div>				
Fields & Relationships	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Charging station Name	Name	Text(80)		✓
Lightning Record Pages	city	city__c	Text(255)		
Buttons, Links, and Actions	Created By	CreatedById	Lookup(User)		
Compact Layouts	Last Modified By	LastModifiedById	Lookup(User)		
Field Sets	Owner	OwnerId	Lookup(User,Group)		✓
Object Limits	Status	Status__c	Picklist		
Record Types					
Related Lookup Filters					
Restriction Rules					
Scoping Rules					

Booking

<div> <div>SETUP > OBJECT MANAGER</div> <div>Booking</div> </div>					
Details	<div> <div>Fields & Relationships</div> <div>11 Items, Sorted by Field Label</div> <div> <div>Q, Quick Find</div> <div>New</div> <div>Deleted Fields</div> <div>Field Dependencies</div> <div>Set History Tracking</div> </div> </div>				
Fields & Relationships	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Booking ID	Booking_ID__c	Auto Number		
Lightning Record Pages	Booking Name	Name	Text(80)		✓
Buttons, Links, and Actions	Charger	Charger__c	Lookup(Charger)		✓
Compact Layouts	Contact	Contact__c	Lookup(Contact)		✓
Field Sets	Cost	Cost__c	Currency(16, 2)		
Object Limits	Created By	CreatedById	Lookup(User)		
Record Types	End Time	End_Time__c	Date/Time		
Related Lookup Filters	Last Modified By	LastModifiedById	Lookup(User)		
Restriction Rules					
Scoping Rules					

Maintenance

<div> <div>SETUP > OBJECT MANAGER</div> <div>Maintenance</div> </div>					
Details	<div> <div>Fields & Relationships</div> <div>8 Items, Sorted by Field Label</div> <div> <div>Q, Quick Find</div> <div>New</div> <div>Deleted Fields</div> <div>Field Dependencies</div> <div>Set History Tracking</div> </div> </div>				
Fields & Relationships	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Charging station	Charging_station__c	Lookup(Charging station)		✓
Lightning Record Pages	Created By	CreatedById	Lookup(User)		
Buttons, Links, and Actions	Date	Date__c	Date		
Compact Layouts	Last Modified By	LastModifiedById	Lookup(User)		
Field Sets	Maintenance ID	Name	Auto Number		✓
Object Limits	Maintenance Type	Maintenance_Type__c	Picklist		
Record Types	Owner	OwnerId	Lookup(User,Group)		✓
Related Lookup Filters	status	status__c	Picklist		
Restriction Rules					
Scoping Rules					

3.Record Types

Booking -> two types of record first “one time booking” and another “Subscription based”

SETUP > OBJECT MANAGER

Booking

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

New Record Type

Booking

Help for this Page

Step 1. Enter the details

Step 1 of 2

Enter a name and description for the new record type. The new record type will include all the picklist values from the existing record type selected below. After saving the new record type, you will be able to customize the picklist values.

Record Type

Existing Record Type

Record Type Label

Record Type Name

Description

Active

Select Make Available to give users assigned to this profile the ability to create and clone records of this record type, or assign this record type to existing records. To make the new record type the default for a profile, select Make Default. Users assigned to this record type can still view and edit records associated with record types not available for their profiles.

Profile Name

Record Types Currently Available

Make Available

Make Default

Maintenance record type

SetupHomeObject Manager

SETUP > OBJECT MANAGER

Maintenance

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Record Type

Emergency Repair

Back to Custom Object: Maintenance

Help for this Page

Use the Edit button to change the properties of this record type. Use the Edit links in the Picklist Values related list to choose the picklist values available for records with this record type.

Edit

Record Type Label

Emergency Repair

Active

Record Type Name

Emergency_Repair

Namespace Prefix

Description

Created By

Amit Kumar Mahatha, 9/22/2025, 11:16 PM

Modified By

Amit Kumar Mahatha, 9/22/2025, 11:16 PM

Picklists Available for Editing

Picklists Available for Editing Help

Action	Field	Modified Date
Edit	Maintenance Type	9/22/2025, 11:16 PM
Edit	status	9/22/2025, 11:16 PM

4.page layout

Charging station

SETUP > OBJECT MANAGER

Charging station

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Page Layouts

1 Items, Sorted by Page Layout Name

Quick Find

New

Page Layout Assignment

PAGE LAYOUT NAME

CREATED BY

MODIFIED BY

Charging station Layout

Amit Kumar Mahatha, 9/21/2025, 6:29 AM

Amit Kumar Mahatha, 9/22/2025, 10:21 PM

Charger

SETUP > OBJECT MANAGER

Charger

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Page Layouts

1 Items, Sorted by Page Layout Name

Q Quick Find

New

Page Layout Assignment

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Charger Layout	Amit Kumar Mahatha, 9/21/2025, 6:31 AM	Amit Kumar Mahatha, 9/22/2025, 11:02 PM

Booking

SETUP > OBJECT MANAGER

Booking

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Page Layouts

1 Items, Sorted by Page Layout Name

Q Quick Find

New

Page Layout Assignment

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Booking Layout	Amit Kumar Mahatha, 9/21/2025, 6:37 AM	Amit Kumar Mahatha, 9/22/2025, 11:03 PM

5.Compact Layout

charging

SETUP > OBJECT MANAGER

Charger

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Charger Compact Layout

Charger Mobile

Help for this Page

Compact Layout Detail

Edit

Clone

Delete

Compact Layout Assignment

Label	Charger Mobile	Object Name	Charger
API Name	Charger_Mobile		
Included Fields	Charger Name Charging station Status		
Created By	Amit Kumar Mahatha, 9/22/2025, 11:29 PM	Modified By	Amit Kumar Mahatha, 9/22/2025, 11:29 PM

Edit

Clone

Delete

Compact Layout Assignment

Charging station

SETUP > OBJECT MANAGER

Charging station

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Compact Layouts

2 Items, Sorted by Label

[New](#) [Compact Layout Assignment](#)

LABEL	API NAME	PRIMARY	MODIFIED BY	LAST MODIFIED
station compact layout	station_compact_layout		Amit Kumar Mahatha	9/22/2025, 9:50 AM
System Default	SYSTEM	✓		

Booking

Setup Home Object Manager

Search Setup

SETUP > OBJECT MANAGER

Booking

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Compact Layouts

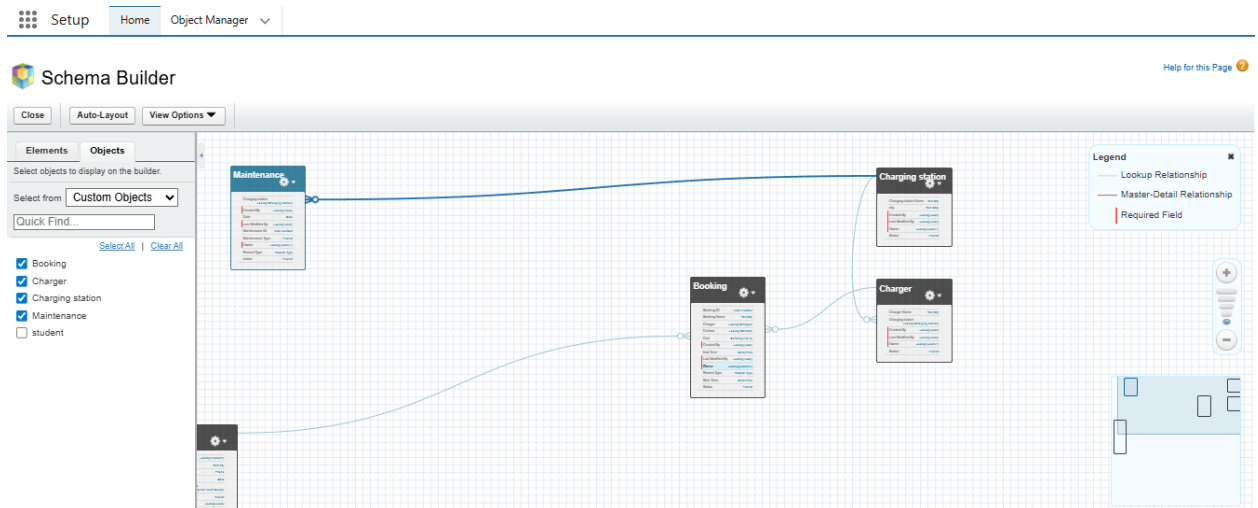
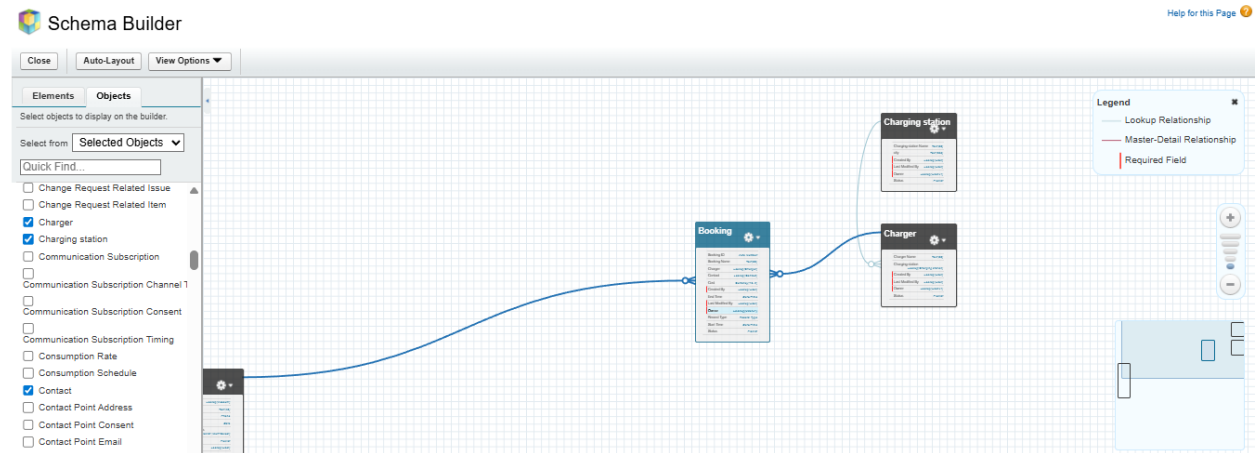
1 Items, Sorted by Label

[New](#) [Compact Layout Assignment](#)

LABEL	API NAME	PRIMARY	MODIFIED BY	LAST MODIFIED
System Default	SYSTEM	✓		

All the objects have system default as compact layout.

6.Schema builder



7.Flow Builder



Flow Builder

?

Toolbox

Screen

Action

Subflow

Logic (6)

Assignment

Decision

Loop

Transform

Collection Sort

Collection Filter

Data (5)

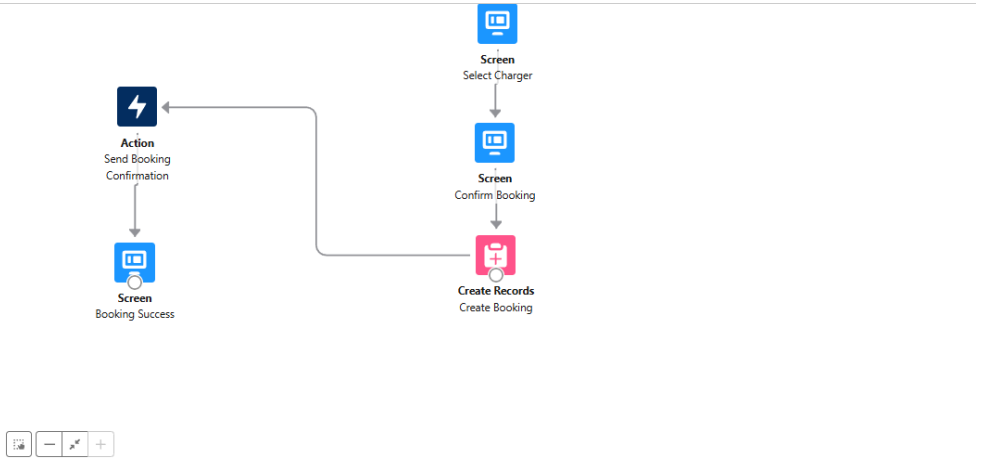
Create Records

Update Records

Get Records

Delete Records

Get more on the AppExchange



Phase 4: Process Automation (Admin)

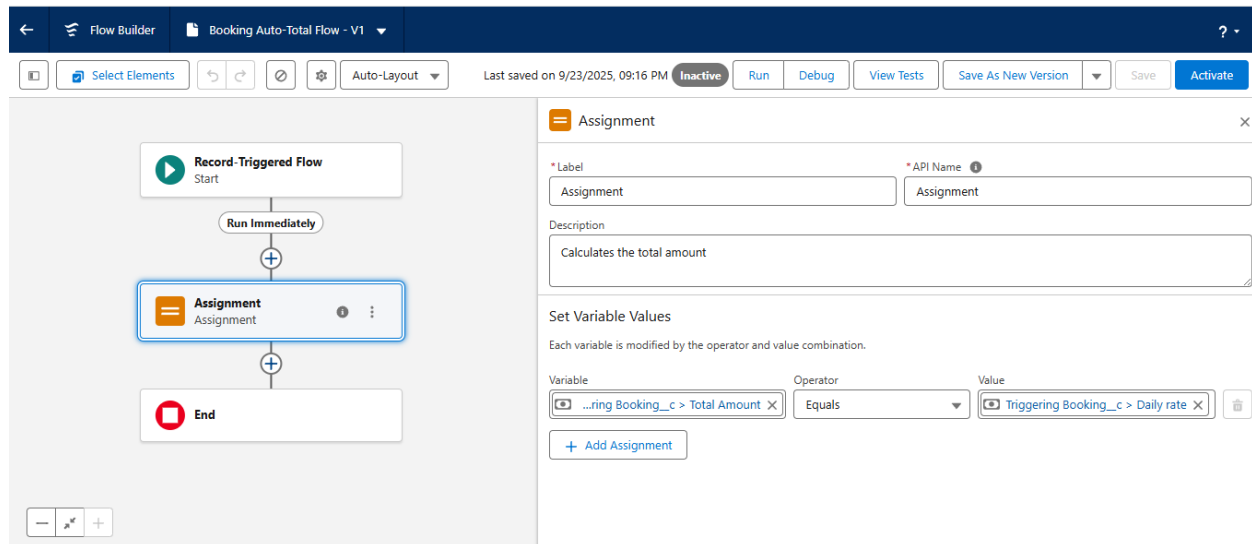
Validation rules: It is checking if the end time <= start time it will show error

End_Time__c <= Start_Time__c

The screenshot shows the 'Booking' object configuration in Salesforce Setup. The 'Error Condition Formula' section is active, displaying the formula 'End_Time__c <= Start_Time__c'. Below the formula, there is an 'Error Message' field with the example text 'Discount percent cannot exceed 30%'. A sidebar on the left lists various configuration options like 'Details', 'Fields & Relationships', and 'Page Layouts'. A 'Functions' panel on the right shows a list of functions including ABS, ACOS, ADDMONTHS, AND, ASCII, and ASIN.

This will show the error message “End Date must be after Start Date.”

Flow builder : Record-Triggered Flow



Setting variable values as “Total_Amount__c = (End_Date__c - Start_Date__c) * Daily_Rate__c”

Creating Approval process for Booking:



SETUP

Approval Processes

Approval Processes

Booking: Booking Approval

[Help for this Page](#)[« Back to Approval Process List](#)

Process Definition Detail

[Edit](#) [Clone](#) [Delete](#) [Activate](#)

Process Name	Booking Approval	Active	<input type="checkbox"/>
Unique Name	Booking_Approval	Next Automated Approver Determined By	
Description	Requires approval for all bookings over rs50,000		
Entry Criteria	Booking: Total Amount GREATER THAN 50000		
Record Editability	Administrator ONLY	Allow Submitters to Recall Approval Requests	<input type="checkbox"/>
Approval Assignment Email Template	Appointment for Unauthenticated User using Appointment Types - For Amazon Chime		
Initial Submitters	Booking Owner		
Created By	Amit Kumar Mahatha , 9/23/2025, 9:03 AM	Modified By	Amit Kumar Mahatha , 9/23/2025, 9:12 AM

Initial Submission Actions

[Add Existing](#) [Add New](#)

Booking approval is sent if the total amount is greater than rs50000

Email Templates:

Selecting classic email templates and creating new templates



SETUP

Classic Email Templates

Email Template

[Send Test and Verify Merge Fields](#)**Subject** | Your EV Charging Slot is Confirmed**Plain Text Preview**

Dear Amit,

Your EV charging slot has been successfully confirmed!

Here are the details of your booking:

Booking Number:

Charging Station:

Start Time:

End Time:

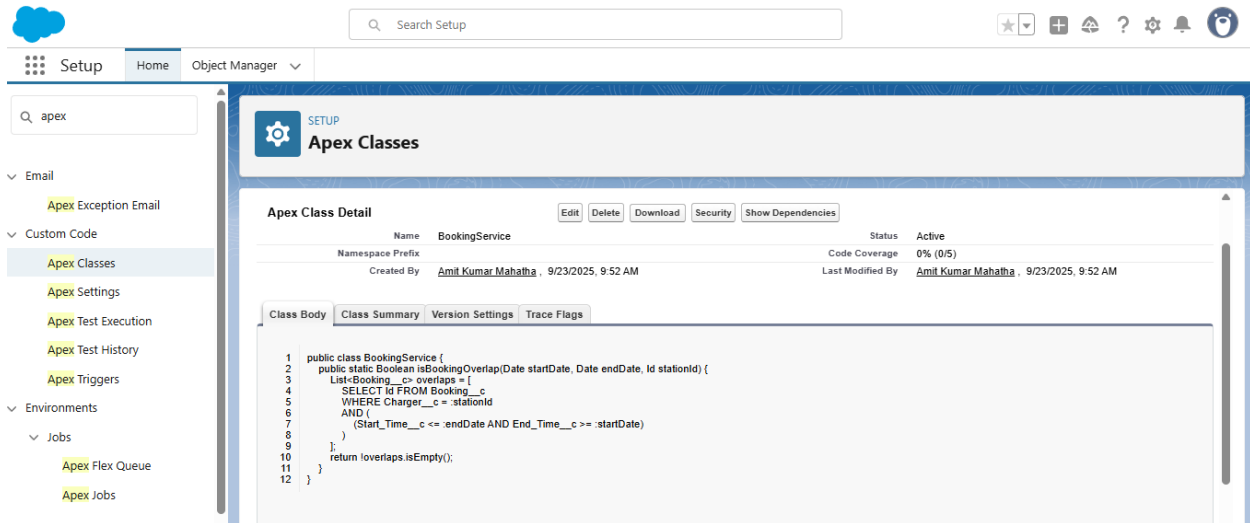
Thank you for using our service. We look forward to seeing you there!

Sincerely,

The EV Charging CRM Team

Phase 5: Apex Programming (Developer)

Performing the apex programming



The screenshot shows the Salesforce Setup interface. On the left is a navigation menu with categories like Email, Custom Code, Environments, and Jobs. Under Custom Code, 'Apex Classes' is selected. The main content area is titled 'Apex Classes' and shows details for the 'BookingService' class. It includes fields for Name, Namespace Prefix, Created By, Last Modified By, Status, Code Coverage, and Active. Below this, there are tabs for 'Class Body', 'Class Summary', 'Version Settings', and 'Trace Flags'. The 'Class Body' tab is active, displaying the following Apex code:

```
1 public class BookingService {
2     public static Boolean isBookingOverlap(Date startDate, Date endDate, Id stationId) {
3         List<Booking__c> overlaps = [
4             SELECT Id FROM Booking__c
5             WHERE Charger__c = :stationId
6             AND (
7                 (Start_Time__c <= :endDate AND End_Time__c >= :startDate)
8             )
9         ];
10        return !overlaps.isEmpty();
11    }
12 }
```

```
public class BookingService {
    public static Boolean isBookingOverlap(Date startDate, Date endDate, Id stationId) {
        List<Booking__c> overlaps = [
            SELECT Id FROM Booking__c
            WHERE Charger__c = :stationId
            AND (
                (Start_Time__c <= :endDate AND End_Time__c >= :startDate)
            )
        ];
        return !overlaps.isEmpty();
    }
}
```

Apex Trigger:

Navigation:

- Go to **Setup** → **Apex Classes** → **New**.

```
trigger BookingTrigger on Booking__c (before insert, before update) {
    for (Booking__c b : Trigger.new) {
        if (BookingService.isBookingOverlap(b.Start_Time__c, b.End_Time__c, b.Charger__c)) {
            b.addError('This charging station is already booked for the selected time.');
```



SETUP

Apex Triggers

Apex Trigger Detail

[Edit](#) [Delete](#) [Download](#) [Show Dependencies](#)

Name	BookingTrigger	sObject Type	Booking
Code Coverage	0% (0/3)	Status	Active
Created By	Amit Kumar Mahatha, 9/23/2025, 10:03 AM		
Last Modified By	Amit Kumar Mahatha, 9/23/2025, 10:03 AM		
Namespace Prefix			

Apex Trigger

Version Settings

Trace Flags

```
1 trigger BookingTrigger on Booking__c (before insert, before update) {
2   for (Booking__c b : Trigger.new) {
3     if (BookingService.isBookingOverlap(b.Start_Time__c, b.End_Time__c, b.Charger__c)) {
4       b.addError('This charging station is already booked for the selected time.');
```

[Edit](#) [Delete](#) [Download](#) [Show Dependencies](#)

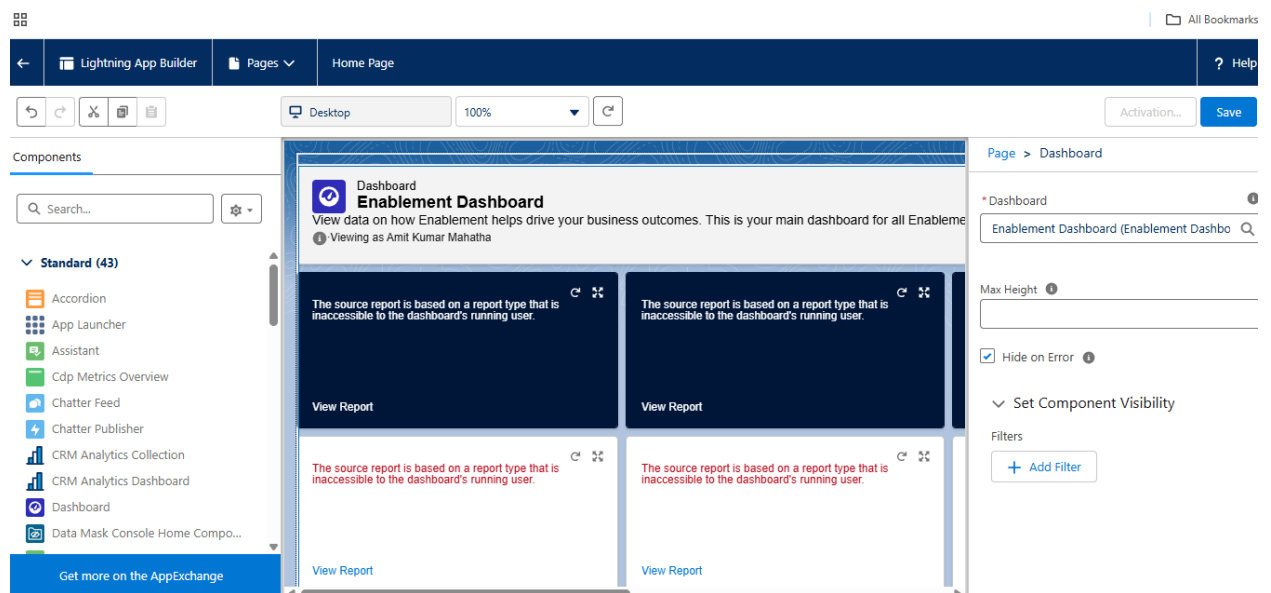
Phase 6: User Interface Development

1. Building Lightning app

Navigation:

Go to Setup → App Manager → New Lightning App

2. Settings the home page where there will be a dashboard



3. Building lightning app

New Lightning App

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.


App Details

*App Name ⓘ
EV Charging CRM

*Developer Name ⓘ
EV_Charging_CRM

Description ⓘ
EV charging station management CRM

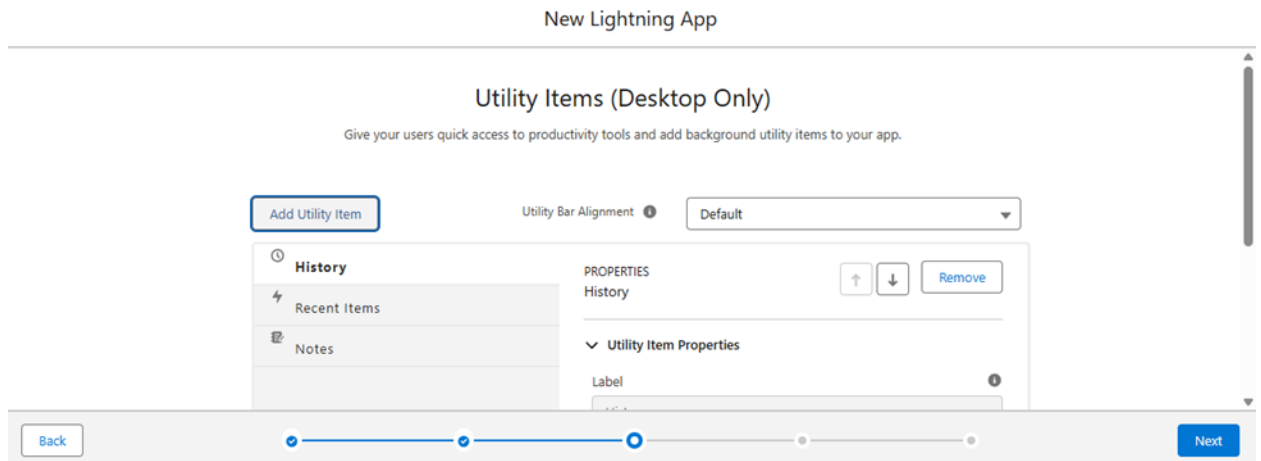
App Branding

Image ⓘ

Clear

Primary Color Hex Value ⓘ
#0070D2

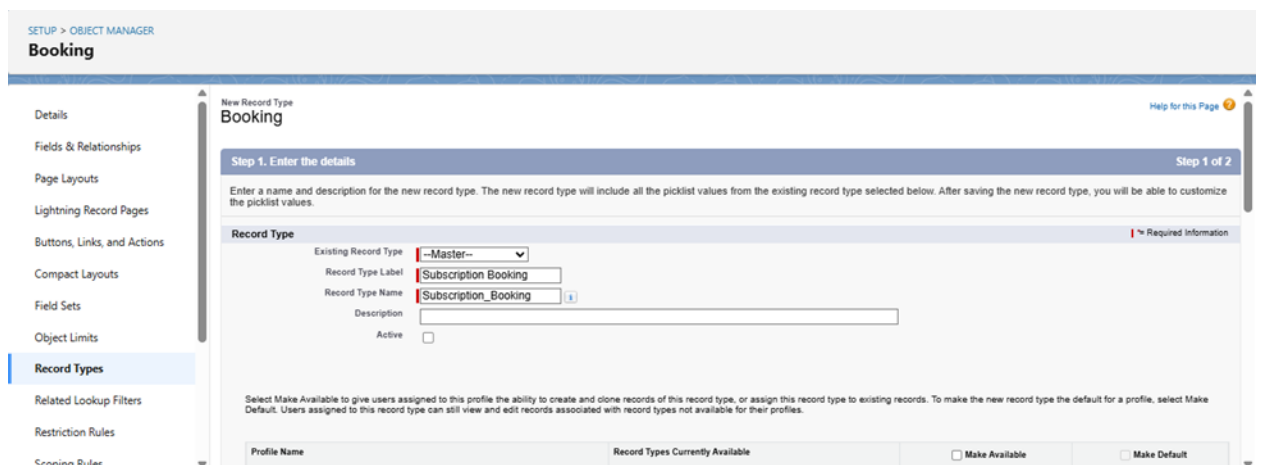
Next

4. Utility bar setup (shown in the bottom)



5. Record pages

Booking -> two types of record first “one time booking” and another “Subscription based”



Maintenance record type

SETUP > OBJECT MANAGER
Maintenance

- Details
- Fields & Relationships
- Page Layouts
- Lightning Record Pages
- Buttons, Links, and Actions
- Compact Layouts
- Field Sets
- Object Limits
- Record Types**
- Related Lookup Filters
- Restriction Rules
- Scoping Rules

Record Type

Emergency Repair

[Help for this Page](#)

[Back to Custom Object: Maintenance](#)

Use the Edit button to change the properties of this record type. Use the Edit links in the Picklist Values related list to choose the picklist values available for records with this record type.

	Edit	
Record Type Label	Emergency Repair	Active <input checked="" type="checkbox"/>
Record Type Name	Emergency_Repair	
Namespace Prefix		
Description		
Created By	Amit Kumar Mahatha, 9/22/2025, 11:18 PM	Modified By Amit Kumar Mahatha, 9/22/2025, 11:18 PM

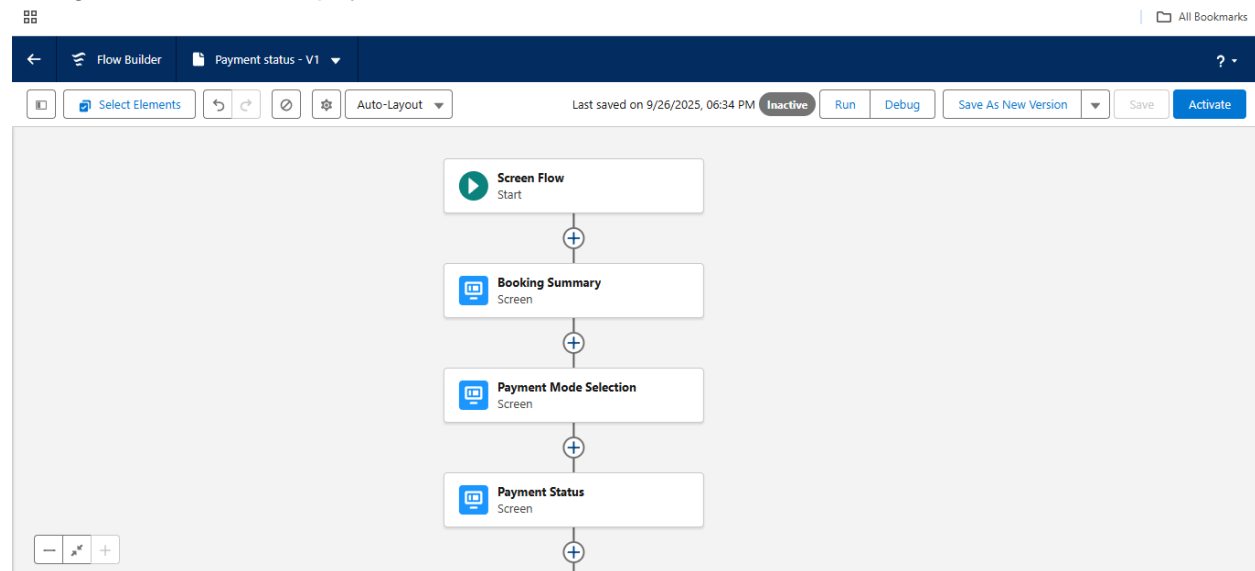
Picklists Available for Editing

[Picklists Available for Editing Help](#)

Action	Field	Modified Date
Edit	Maintenance Type	9/22/2025, 11:18 PM
Edit	status	9/22/2025, 11:18 PM

Phase 7: Integration & External Access

Making payment status message
Using flow to make the payment status



First it will showing the booking summary , pending , incomplete etc.,
Then the payment mode selection such as upi , cash etc.,
And then it will show the payment status

The screenshot shows the Salesforce Setup page for the 'Booking' object. The 'Payment status' custom field is defined as a picklist. The field information is as follows:

Field Label	Payment status	Object Name	Booking
Field Name	Payment_status	Data Type	Picklist
API Name	Payment_status__c		
Description			
Help Text			
Data Owner			
Field Usage			
Data Sensitivity Level			
Compliance Categorization			
Created By	Amit Kumar Mahatha, 9/26/2025, 6:10 AM	Modified By	Amit Kumar Mahatha, 9/26/2025, 6:10 AM

Made the picklist values for payment status.

Phase 8: Data Management & Deployment

Performing Data import wizard

1. Making a .csv file for the charging station records

ChatGPT ▾

make a .csv file containing the "charging station" "status" "city", where give dummy names such as charging station1 ... for the charging station field , for the status field ,fill the field with any of the three values 1. In use 2. Maintenance 3.Available and for the city field give some random indian cities name



I've created the CSV file with dummy charging station data. You can download it from here:

[charging_stations.csv](#)



Made with the help of chat gpt

POSSIBLE DATA LOSS Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format. Don't show again Save As...

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Charging Station	Status	City										
2	Charging Station 1	Maintenance	Hyderabad										
3	Charging Station 2	Available	Delhi										
4	Charging Station 3	In use	Lucknow										
5	Charging Station 4	Maintenance	Pune										
6	Charging Station 5	Available	Kolkata										
7	Charging Station 6	Available	Kolkata										
8	Charging Station 7	Maintenance	Lucknow										
9	Charging Station 8	Available	Jaipur										
10	Charging Station 9	Available	Pune										
11	Charging Station 10	Maintenance	Pune										
12	Charging Station 11	Maintenance	Pune										
13	Charging Station 12	Maintenance	Pune										
14	Charging Station 13	Maintenance	Hyderabad										
15	Charging Station 14	In use	Mumbai										
16	Charging Station 15	Available	Chennai										
17	Charging Station 16	In use	Lucknow										
18	Charging Station 17	In use	Mumbai										
19	Charging Station 18	Maintenance	Lucknow										
20	Charging Station 19	In use	Hyderabad										

This is the csv file

2.choosing the csv file for the custom objects

Setup

Home

Object Manager

Search Setup

★

+

🔍

?

⚙️

🔔

👤

Getting closer...

Choose data

Edit mapping

Start import

Standard objects

Custom objects

Bookings

Chargers

Charging stations

Maintenances

Add new records

Match by:

--None--

Which User field in your file designates record owners?

--None--

Trigger workflow rules and processes?
☐ Trigger workflow rules and processes for new and updated records

Drag CSV file here to upload

CSV

File

Choose File

 charging_stations.csv

Character Code

ISO-8859-1 (General US & Western European, ISO-LATIN-1)

Values Separated By

Comma

Cancel

Previous

Next

Mapping all the fields

Setup

Home

Object Manager

Search Setup

★

+

🔍

?

⚙️

🔔

👤

Great job

Choose data

Edit mapping

Start import

Review & Start Import

Review your import information and click Start Import.

Help for this page

Your selections:

Your import will include:

Your import will not include:

Charging stations

Add new records

charging_stations.csv

Mapped fields

3

Unmapped fields

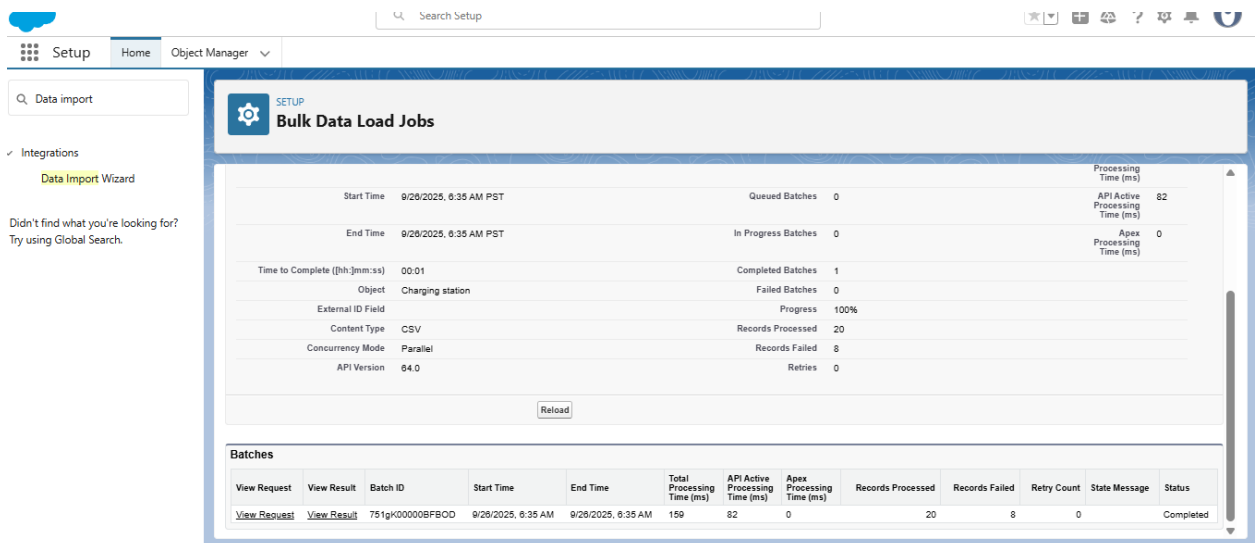
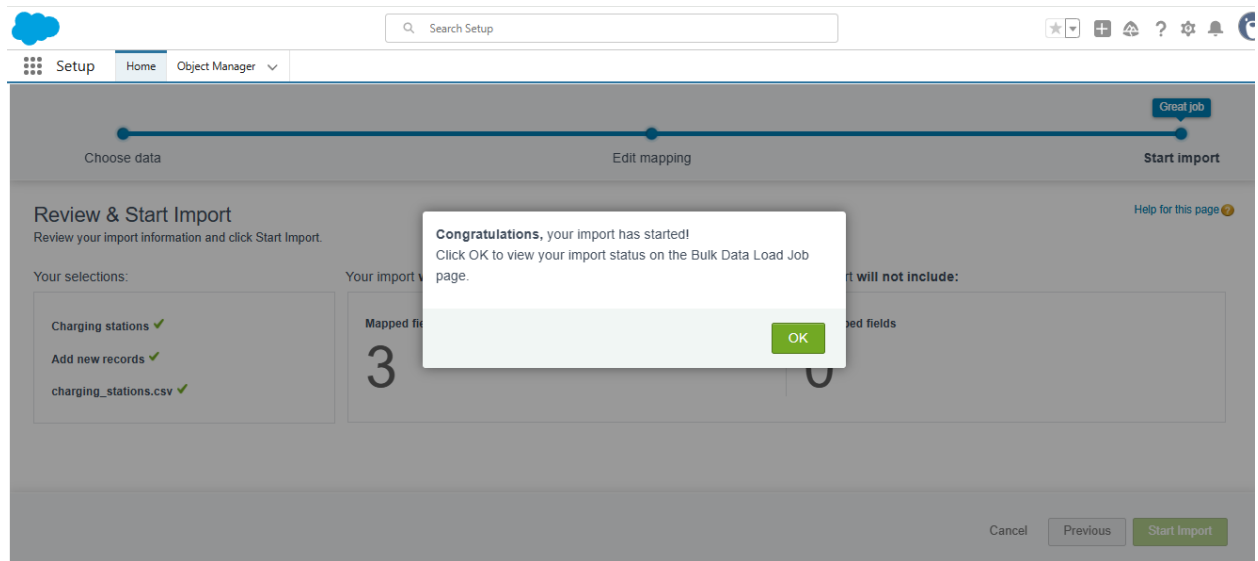
0

Cancel

Previous

Start Import

Importing has started



Finally the data is imported

As you can see the records have been imported



Search...



Charging stations

All



New

Import

Change Owner

Printable View

Assign Label

14 items • Sorted by Charging station Name • Updated a few seconds ago



☐ Charging station Name ↑

1



Available Chargers



2



Charging Station 14



3



Charging Station 15



4



Charging Station 16



5



Charging Station 17



6



Charging Station 19



7



Charging Station 2



8



Charging Station 20



9



Charging Station 3



10



Charging Station 5



11



Charging Station 6



12



Charging Station 8



Phase 9: Reporting, Dashboards & Security Review

Building reports

Building custom reports and linking the relationship with other objects

The screenshot shows the Salesforce Setup interface. On the left, the navigation menu is expanded to 'Reports & Dashboards' > 'Report Types'. The main content area displays the configuration for a custom report type named 'charging station report'. At the top right of the main area are buttons for 'Preview Layout', 'Edit Layout', 'Clone', 'Delete', and 'Close'. Below these buttons is a brief instruction: 'Below is the information for this custom report type. You can click the buttons on this to preview or update information for the custom report type'.

The configuration is divided into two panels:

- Details:** A table of metadata for the report type.

Field	Value
Display Label	charging station report
API Name	charging_station_report
Description	show the report for the charging station
Created By	Amit Kumar Mahatha, 9/26/25, 7:41 PM
Store in Category	opportunities
Deployment Status	Deployed
Modified By	Amit Kumar Mahatha, 9/26/25, 7:41 PM
- Object Relationships:** A diagram showing the relationship between 'Charging stations (A)' and 'Chargers (B)'. The text indicates '... with at least one related record from Chargers (B)'. The diagram consists of two overlapping circles, A (blue) and B (orange), with an arrow pointing to a small table below showing 'A' and 'B' columns.

Navigation guide

- 1.setup
- 2.report types
- 3.build custom reports
- 4.select the custom object you want to create reports
- 5.create the report