

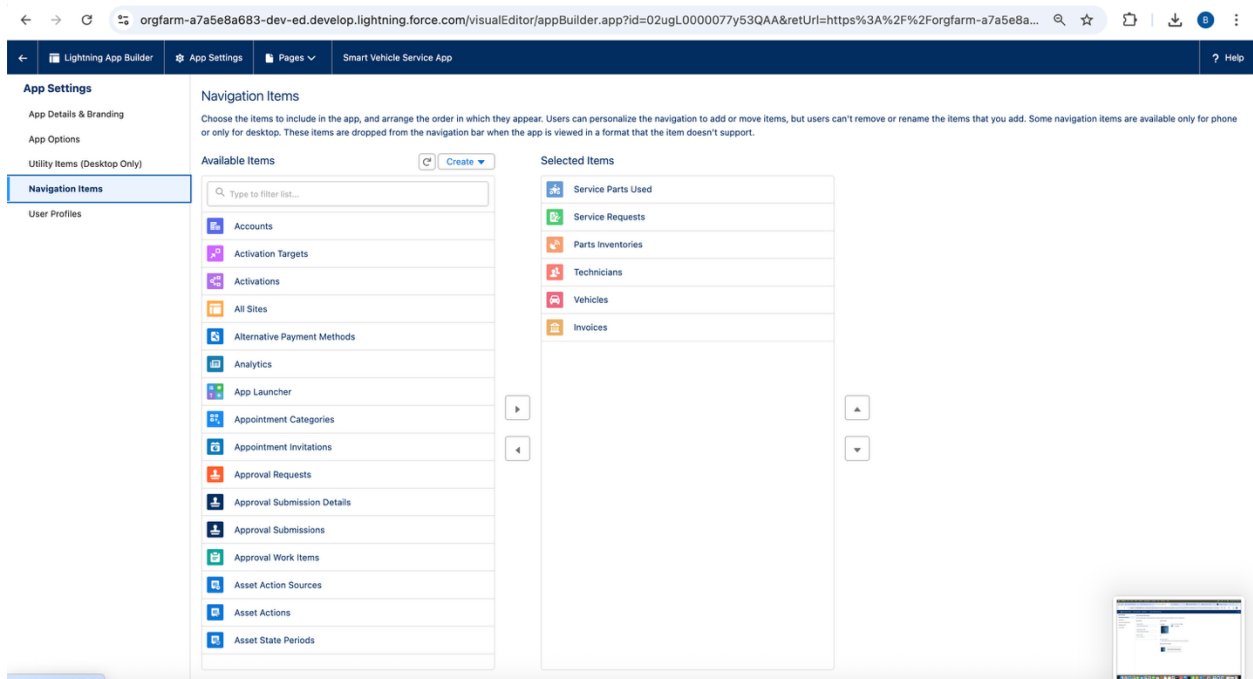
Phase 6: User Interface Development Documentation

Objective

Design a user-friendly interface for the Smart Vehicle Service & Maintenance CRM project using Salesforce Lightning Experience. Ensure that all key objects and processes are accessible via intuitive pages, tabs, and Lightning components.

1. Lightning App Builder

- Used to **create and customize Lightning Apps, Record Pages, and Home Pages.**
- Steps Implemented:**
 - Created a **Lightning App** called **Smart Vehicle CRM.**
 - Added **Navigation Items:**
 - Service Requests
 - Invoice
 - Parts Inventory
 - Technicians
 - Ensured only relevant tabs are visible based on **user profile (Service Manager, Technician, Customer Service Agent).**



← → ↺ orgfarm-a7a5e8a683-dev-ed.develop.lightning.force.com/visualEditor/appBuilder.app?id=02ugL0000077y53QAA&retUrl=https%3A%2F%2Forgfarm-a7a5e8a683-... 🔍 ☆ 📄 ⓘ ⚙

← Lightning App Builder App Settings Pages Smart Vehicle Service App ? Help

App Settings

App Details & Branding

App Options

Utility Items (Desktop Only)

Navigation Items

User Profiles

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 ⓘ
Smart Vehicle Service App

* Developer Name ⓘ
Smart_Vehicle_Service_App


Description ⓘ
Enter a description...

App Branding

Image ⓘ

Clear

Primary Color Hex Value ⓘ
#0070D2

Org Theme Options
☐ Use the app's image and color instead of the org's custom theme

App Launcher Preview
 Smart Vehicle Service App

← → ↺ orgfarm-a7a5e8a683-dev-ed.develop.lightning.force.com/visualEditor/appBuilder.app?id=02ugL0000077y53QAA&retUrl=https%3A%2F%2Forgfarm-a7a5e8a... 🔍 ☆ 📄 ⚙

← Lightning App Builder App Settings Pages Smart Vehicle Service App ? Help

App Settings

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App Options

Utility Items (Desktop Only)

Navigation Items

User Profiles

User Profiles

Choose the user profiles that can access this app.

Available Profiles

Type to filter list...

Analytics Cloud Integration User

Analytics Cloud Security User

Anypoint Integration

Authenticated Website

Authenticated Website

B2B Reordering Portal Buyer Profile

Contract Manager

CSA Platform Profile

Custom: Marketing Profile

Custom: Sales Profile

Custom: Support Profile

Customer Community Login User

Customer Community Plus Login User

Customer Community Plus User

Customer Community User

Customer Portal Manager Custom

Customer Portal Manager Standard

Selected Profiles

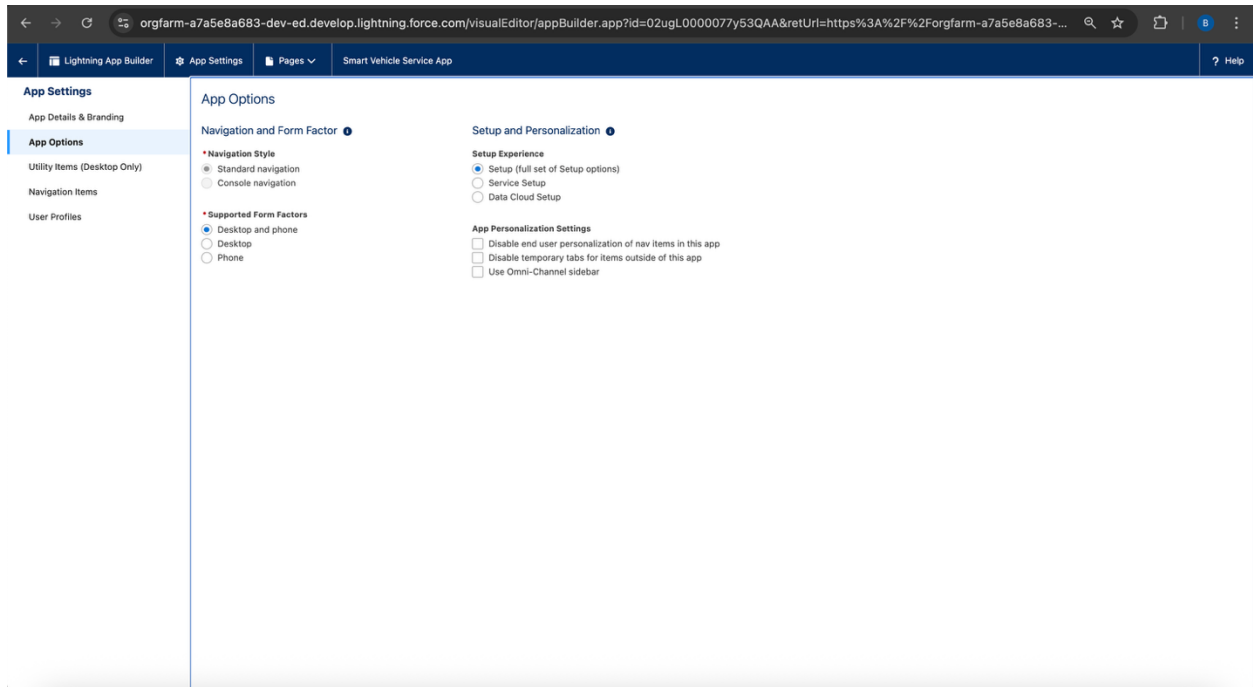
Service Manager Profile

Technician Profile

Customer Service Agent Profile

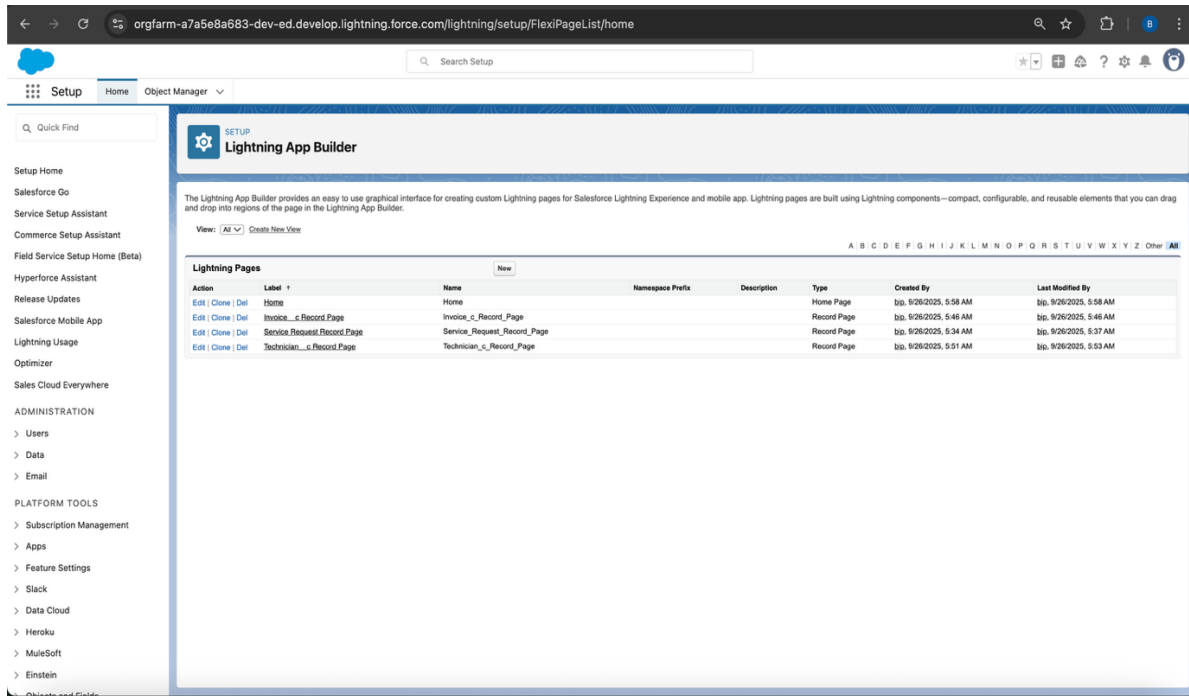
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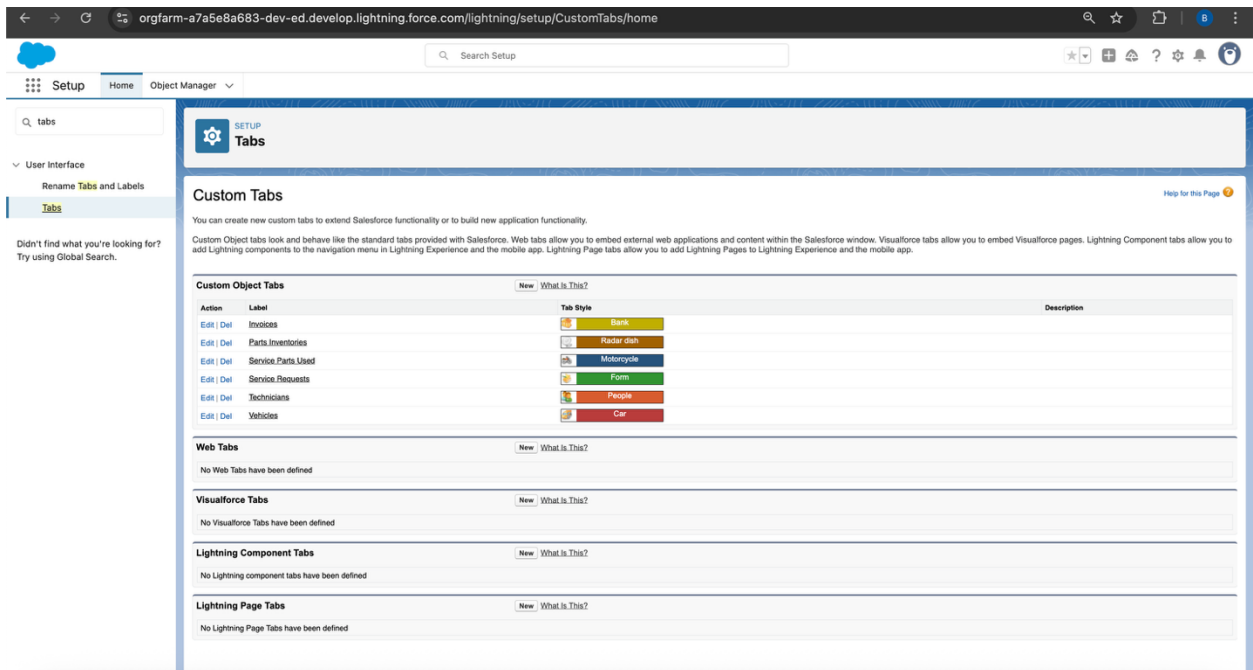
2. Record Pages

- Custom record pages for better user experience.
- **Implementation:**
 - Open **Lightning App Builder** → **Object** → **Record Page**.
 - Created **Technician, Service Request, Invoice, and Parts Inventory Record Pages**.
 - Dragged the following **components**:
 - **Details** (for key fields like Name, Amount, Vehicle, Status, Assigned Technician)
 - **Related Lists** (to show linked records, e.g., Assigned Service Requests under Technicians)
 - **Tabs** component for grouping sections (Details, Related Records, Notes)
 - Added **Highlights Panel** to show critical information at the top.
- **Related List Example:**
 - Technician Record Page → Related List → **Assigned Service Requests** (based on `Technician__c` lookup in `Service_Request__c`)
 - Columns displayed: Name, Vehicle, Status, Service Date



3. Tabs

- Tabs created in **Lightning App Builder** for easy navigation.
- Tabs include:
 - Service Requests
 - Invoice
 - Parts Inventory
 - Technicians
- Users can switch quickly between objects without leaving the app.

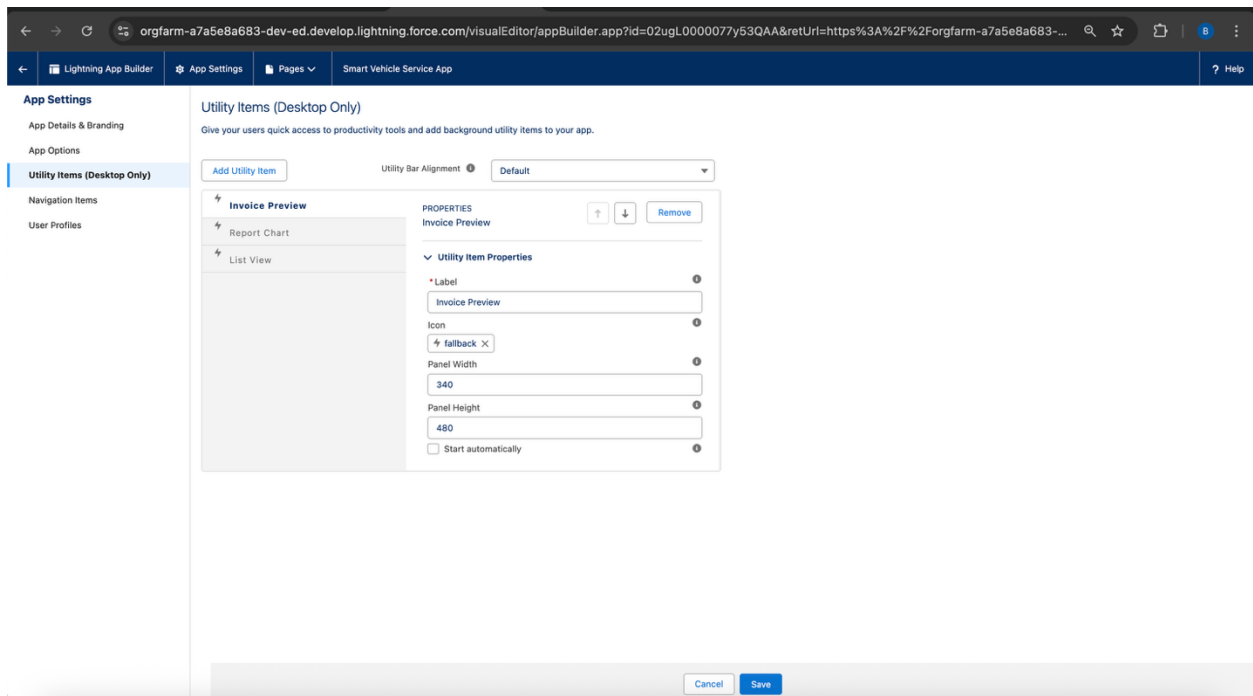


4. Home Page Layouts

- **Customized Home Page** for the app:
 - Included **Key Metrics Components**:
 - Open Service Requests
 - Pending Invoices
 - Low Inventory Alerts
 - Added **Reports & Dashboards** components for at-a-glance summaries.
 - Added **Recent Records** to show recently modified Service Requests and Invoices.

5. Utility Bar

- Added commonly used tools for quick access:
 - **Global Search**
 - **Create New Service Request**
 - **Notifications for High-Value Invoice Approvals**
 - **Preventive Maintenance Reminder Scheduler**



6. Lightning Web Components (LWC)

- Custom LWCs created for project features:
 - Service Request Assignment Table
 - Technician Dashboard
 - Inventory Status Cards
- Components communicate with **Apex Controllers** for dynamic data retrieval.

7. Apex with LWC

- Used **Apex classes** as controllers for LWCs:
 - `ServiceRequestHandler.cls` → fetch available technicians
 - `InvoiceProcessor.cls` → fetch pending invoices
- LWCs call **Apex methods** using `@AuraEnabled` annotation for server-side processing.

8. Events in LWC

- Implemented **custom events** for component communication:
 - Child component emits event → parent LWC listens → updates related UI.

- Example: Selecting a Technician in one component updates Assigned Service Requests in another component.
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9. Wire Adapters

- Used **@wire adapters** to fetch Salesforce data:
 - Fetch records for Service Requests, Technicians, and Inventory
 - Automatic refresh on data changes
-

10. Imperative Apex Calls

- Used when actions require **dynamic user input** or **button clicks**:
 - Assign Technician button triggers `ServiceRequestHandler.assignTechnician`
 - Submit Invoice for Approval button triggers `InvoiceProcessor.submitForApproval`
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11. Navigation Service

- Implemented **navigation in LWCs**:
 - `NavigationMixin` used to redirect users to:
 - Record pages
 - List views
 - Lightning app pages
 - Example: After creating a Service Request, user is automatically navigated to its detail page.
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12. Summary of Key Pages & Components

Object / Page	Components	Purpose / Key Fields
Technician__c	Details, Related List (Assigned Service Requests), Tabs	Name, Availability, Assigned Service Requests
Service_Request__c	Details, Related Lists, Highlights Panel	Vehicle, Technician, Status, Service Date
Invoice__c	Details, Related Lists	Name, Amount, Status

Object / Page	Components	Purpose / Key Fields
Parts_Inventory__c	Details, Inventory Status Cards	Part Name, Quantity, Reorder Level
Home Page	Reports, Recent Records, Metrics	Quick overview for managers and agents
Utility Bar	Global Search, Notifications	Quick access to common tasks