

Phase 6 Report

User Interface Development

Project: Smart Healthcare Appointment & Compliance Hub

Batch: 4

Program: TCS Last Mile SmartBridge

Prepared by: Palla Bhugarbha

1. Introduction

This phase focuses on building an intuitive and efficient user interface for the Smart Healthcare Appointment & Compliance Hub. Using Salesforce Lightning App Builder and Lightning Web Components (LWC), the system is enhanced with customized pages, tabs, and dashboards. The goal is to provide doctors, patients, and administrators with an easy-to-use interface to manage appointments, monitor compliance, and access real-time healthcare data, ensuring a seamless user experience.

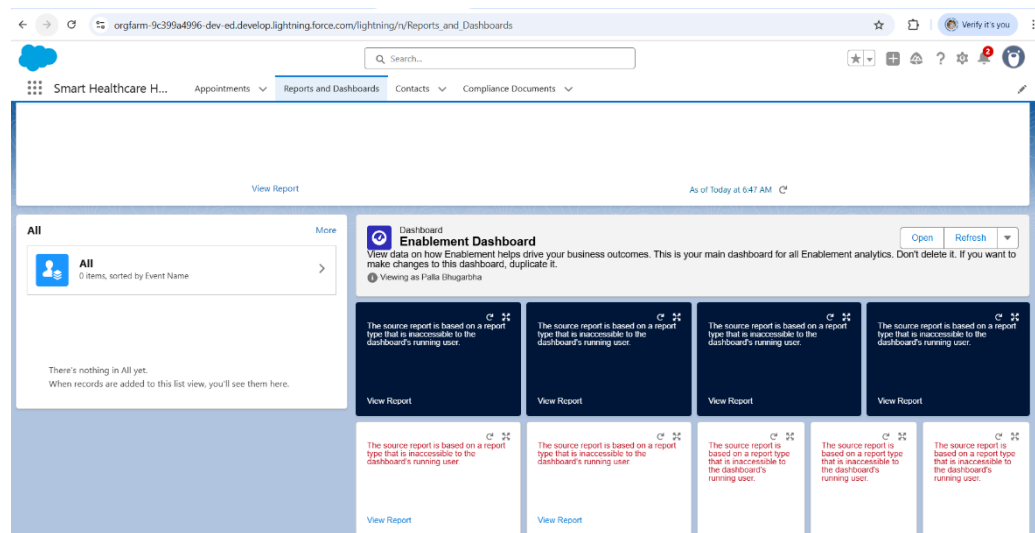
2. Objectives

- Design and configure the **Smart Healthcare App layout** using Lightning App Builder for improved navigation and accessibility.
- Customize **Record Pages** for Appointments and Compliance objects to display related details in a single view.
- Configure **Tabs and Navigation Items** to provide quick access to healthcare modules such as Patients, Compliance, and Reports. Develop and integrate **Lightning Web Components (LWC)** with Apex to display dynamic healthcare data like upcoming appointments.
- Ensure a **user-friendly Home Page and dashboards** to provide clinicians and administrators with real-time insights and alerts.

3. Steps Performed

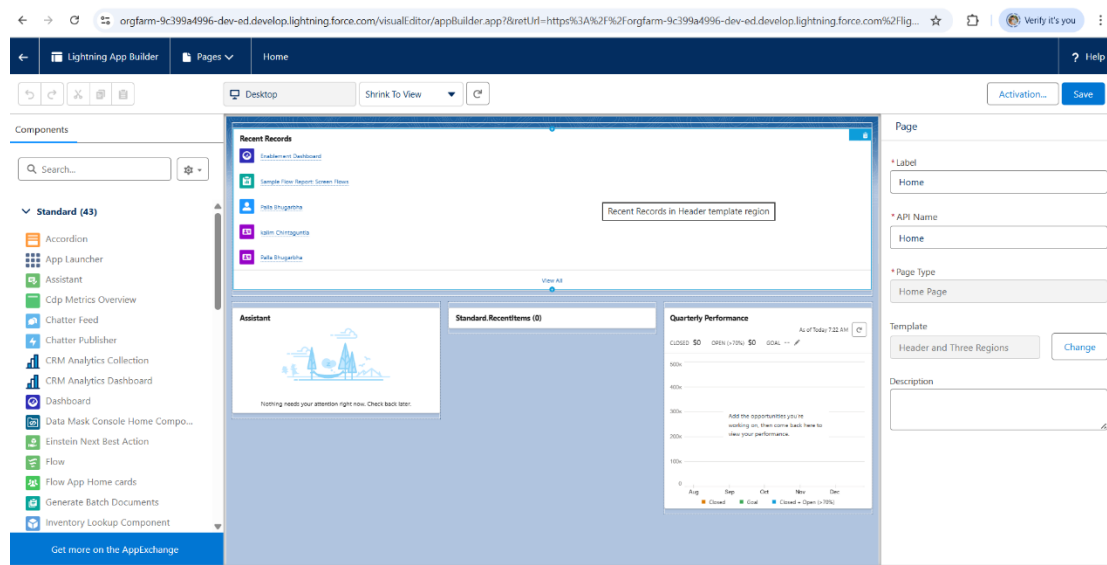
3.1 Lightning App Builder(App & Home Page)

- Used Lightning App Builder to design the **Smart Healthcare App layout**.
- Customized the **Home Page** to display dashboards like *Upcoming Appointments* and *Compliance Alerts*.
- Added standard components such as Recent Items and Reports for quick access.
- Activated the Home Page layout for all users (Doctors, Patients, Admins).



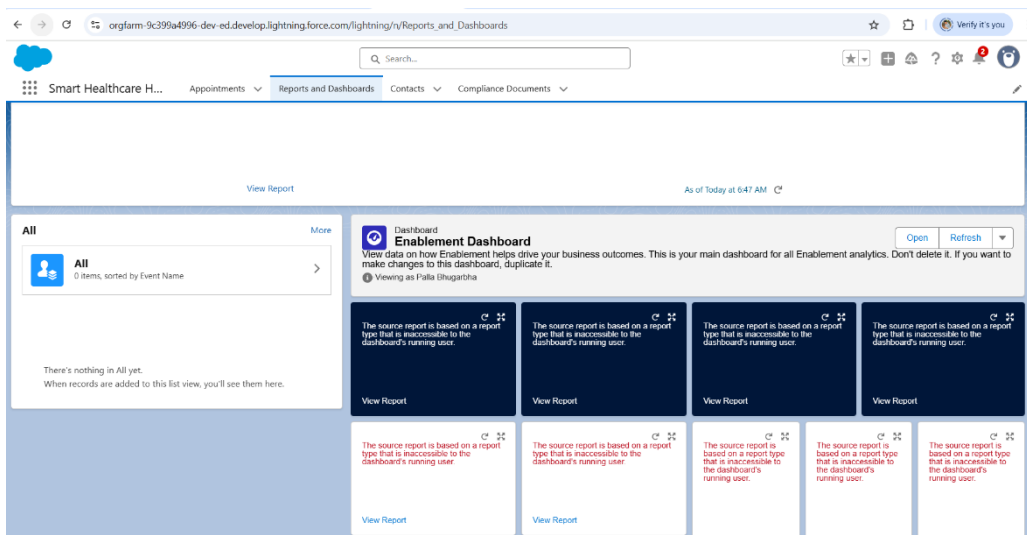
3.2 Record Pages(Appointment & Compliance)

- Customized the **Appointment record page** to show Patient, Clinician, and Compliance details in one view.
- Added related lists for linked records (e.g., Patient info, Compliance documents).
- Placed standard and custom components (like Appointment Details card).
- Assigned the record page to profiles so each role sees the right layout.



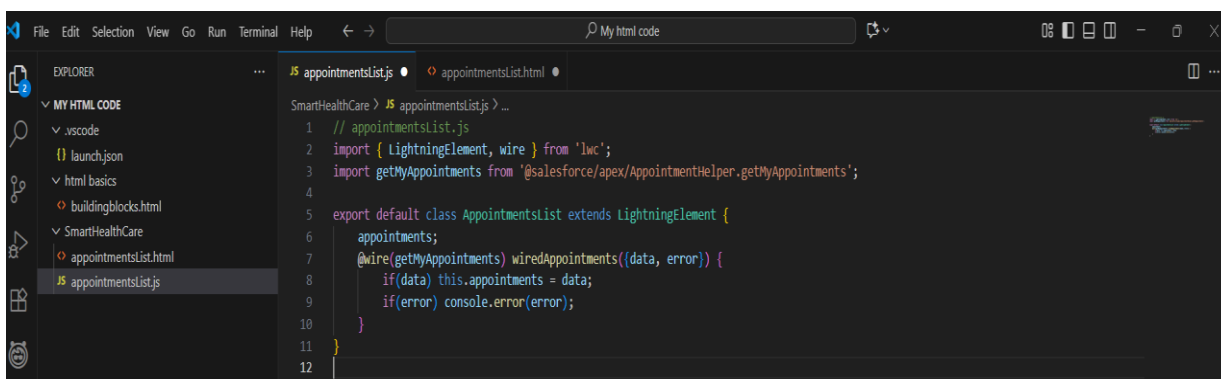
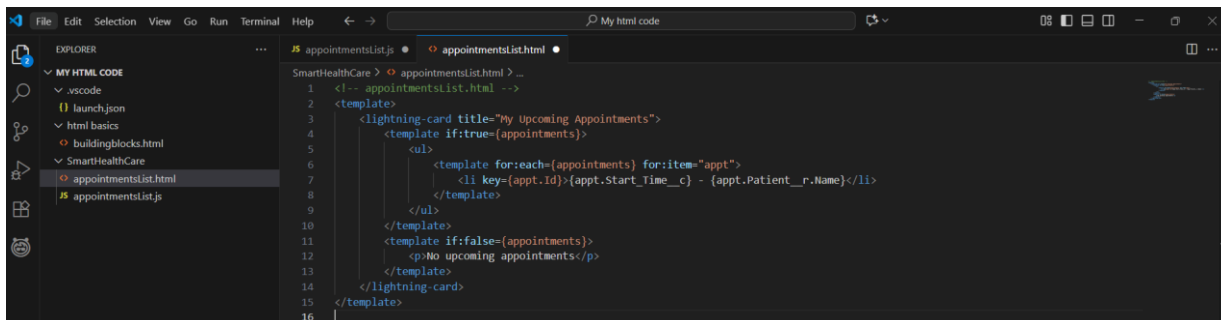
3.3 Tabs & Navigation Items

- Configured the **App Navigation Bar** with tabs for Appointments, Compliance, Patients, and Reports.
- Used App Manager → Navigation Items to add custom object tabs.
- Enabled smooth navigation between different healthcare modules.
- Verified the tabs became visible in the app for quick access.



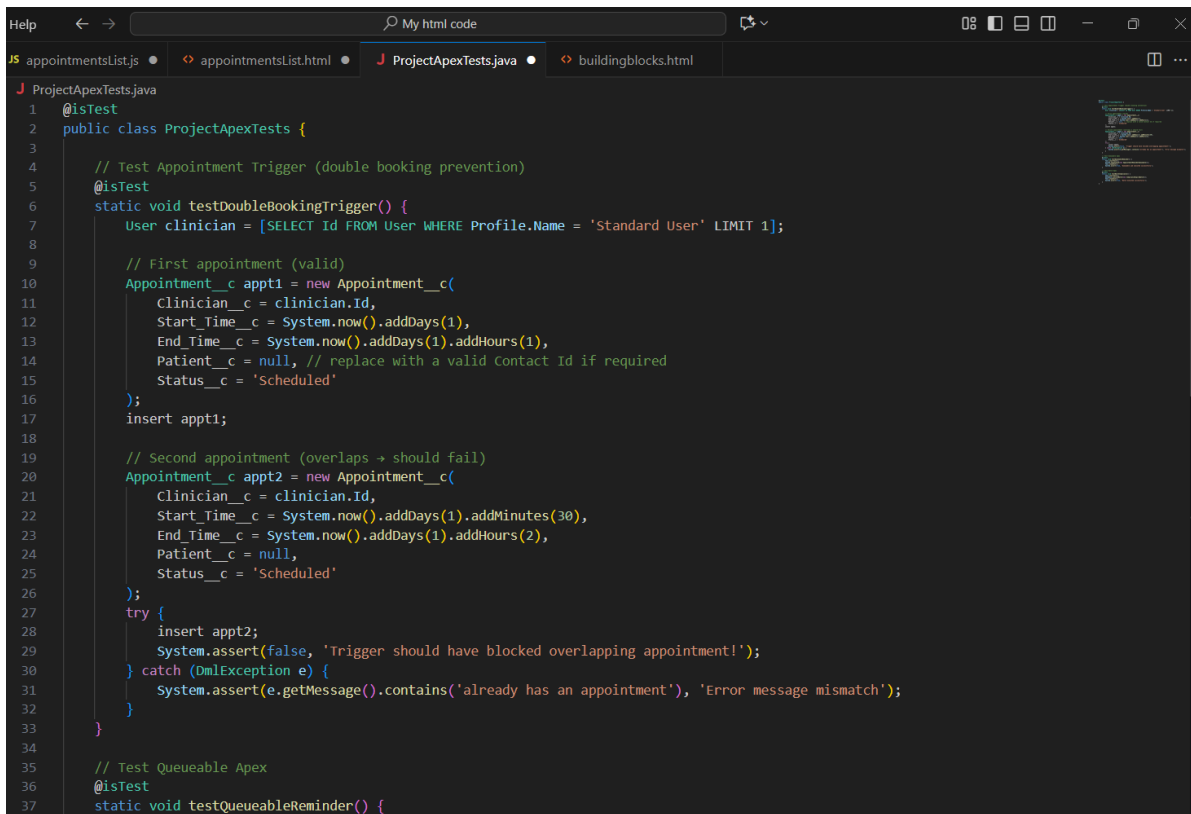
3.4 Lightning Web Components(LWC) with Apex Integration

- Built a custom **AppointmentsList LWC** showing upcoming appointments for the logged-in doctor.
- Connected LWC with Apex (AppointmentHelper.getMyAppointments) to fetch real-time data.
- Displayed appointment date/time and patient details in a Lightning Card.
- Added the LWC to the Appointment Record Page and Home Page for clinicians.



3.9 Create & Run Test Classes

- Created *ProjectApexTests* class with *@isTest* methods.
- Tested triggers by inserting overlapping appointments (ensuring errors fire).
- Verified batch and queueable execution inside *Test.startTest()/stopTest()*.
- Captured *Apex Test Execution results* with >75% coverage



```
1 @isTest
2 public class ProjectApexTests {
3
4     // Test Appointment Trigger (double booking prevention)
5     @isTest
6     static void testDoubleBookingTrigger() {
7         User clinician = [SELECT Id FROM User WHERE Profile.Name = 'Standard User' LIMIT 1];
8
9         // First appointment (valid)
10        Appointment__c appt1 = new Appointment__c(
11            Clinician__c = clinician.Id,
12            Start_Time__c = System.now().addDays(1),
13            End_Time__c = System.now().addDays(1).addHours(1),
14            Patient__c = null, // replace with a valid Contact Id if required
15            Status__c = 'Scheduled'
16        );
17        insert appt1;
18
19        // Second appointment (overlaps + should fail)
20        Appointment__c appt2 = new Appointment__c(
21            Clinician__c = clinician.Id,
22            Start_Time__c = System.now().addDays(1).addMinutes(30),
23            End_Time__c = System.now().addDays(1).addHours(2),
24            Patient__c = null,
25            Status__c = 'Scheduled'
26        );
27        try {
28            insert appt2;
29            System.assert(false, 'Trigger should have blocked overlapping appointment!');
30        } catch (DmlException e) {
31            System.assert(e.getMessage().contains('already has an appointment'), 'Error message mismatch');
32        }
33    }
34
35    // Test Queueable Apex
36    @isTest
37    static void testQueueableReminder() {
```

4. Expected Outcomes

- A customized **Smart Healthcare App layout** with an intuitive navigation structure for all users.
- **Record Pages** for Appointment and Compliance objects configured to display patient, clinician, and compliance details in one view.
- **Tabs and Navigation Items** streamlined for quick access to Appointments, Patients, Compliance, and Reports.
- A functional **Lightning Web Component (LWC)** integrated with Apex to display upcoming appointments dynamically.
- A user-friendly **Home Page dashboard** providing real-time insights such as upcoming schedules and compliance alerts.

5. Conclusion

Phase 6 strengthened the Smart Healthcare Appointment & Compliance Hub by focusing on user interface development. Through the use of Lightning App Builder, Record Page customization, Navigation Tabs, and a custom LWC integrated with Apex, the system now offers a seamless and interactive user experience. Clinicians, patients, and administrators can access critical information quickly and efficiently, ensuring improved usability and better management of healthcare operations.