

A CRM APPLICATION FOR LAPTOP RENTALS

1. Project Overview:

This project is dedicated to developing a robust CRM application tailored for managing laptop rentals within a business environment using the Salesforce platform. The primary goal is to tackle operational challenges, including handling rental requests efficiently, monitoring inventory, and facilitating effective communication with customers. Leveraging Salesforce's strengths in automation, workflow optimization, and data storage, this CRM application aims to:

1. Optimize the Rental Workflow: Streamline the booking and return processes to reduce time and minimize manual intervention required for each rental.
2. Enhance Customer Satisfaction: Send timely email notifications to customers for booking confirmations and return reminders.
3. Increase Data Accuracy and Insightful Reporting: Provide real-time visibility into laptop inventory and rental status, empowering staff to make informed, quick decisions.

2. Objective Goals:

1. Streamline the laptop rental and return processes to minimize manual effort, enhancing efficiency and accuracy.
2. Strengthen customer management practices to improve service quality and foster lasting customer relationships.
3. Implement precise tracking and reporting for laptop inventory to ensure accurate availability and effective asset management.

Specific outcomes:

- A customized Salesforce CRM application designed to manage rental services with an intuitive interface, allowing users to easily view, manage, and track rental activity.
- Automated workflows streamline the handling of rental requests, provide real-time status updates, and send email notifications.
- Comprehensive reports and dashboards deliver real-time insights into inventory levels, rental activity, and customer engagement.

3. Salesforce Key Features and Concepts Utilized:

This section details the core Salesforce functionalities and tools used in the Laptop Rentals

CRM application. ● **Custom Objects and Fields:**

- **Laptop_Bookings__c:** A custom object created to manage each rental booking, featuring fields such as:

- Customer Name
- Email_c
- Amount_c
- Core c
- Laptop_Type c
- Status

- Laptops c: An additional custom object representing inventory items, which tracks details like model, specifications, and availability status

- **Apex Triggers and Classes:**

- Developed an after-insert trigger (LaptopBooking) to send automated confirmation emails when a booking is made. The LaptopBookingHandler class formats and personalizes these emails with customer details.

- **Process Automation with Process Builder and Flows:**

- Designed a Process Builder flow to manage booking status changes (e.g., from "Booked" to "In Use" to "Returned") without manual updates.

- **Validation Rules for Data Accuracy:**

- Added rules to enforce data quality, requiring key fields like Email and Amount for complete booking records.

- **Reports and Dashboards:** Created dashboards and reports to provide insights on **inventory, rental volumes, popular laptop models**, and customer demographics, supporting strategic planning and resource allocation.

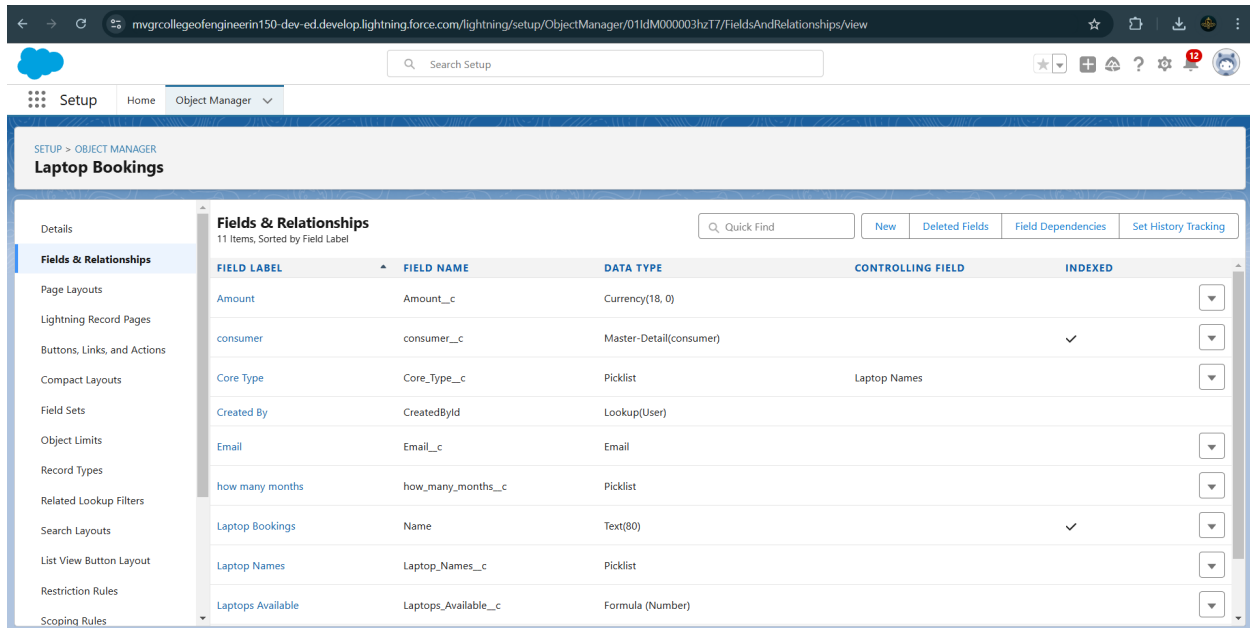
4.Detailed Steps to Solution design:

The solution was carefully designed in multiple steps, covering data models, user - interface, and business logic. Here's an overview:

- **Data Model Design:**

- Created **Laptop_Bookings__c** and **Laptops__c** custom objects.
- Established relationships between **Laptop_Bookings__c** and standard Salesforce objects (Account or Contact) to connect customers with their respective bookings.
- Additional fields, such as Email__c, Amount__c, Core__c, and Laptop_Type__c, are used to store booking-specific data. Relationships between objects are established to link the Laptop_Bookings_c object with other standard or custom objects (e.g., Account, Contact) to enhance data integrity and support comprehensive reporting.

Fields Included in the **LaptopBooking object:**



FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Currency(18, 0)		
consumer	consumer__c	Master-Detail(consumer)		✓
Core Type	Core_Type__c	Picklist	Laptop Names	
Created By	CreatedById	Lookup(User)		
Email	Email__c	Email		
how many months	how_many_months__c	Picklist		
Laptop Bookings	Name	Text(80)		✓
Laptop Names	Laptop_Names__c	Picklist		
Laptops Available	Laptops_Available__c	Formula (Number)		

User Interface (UI) Design:

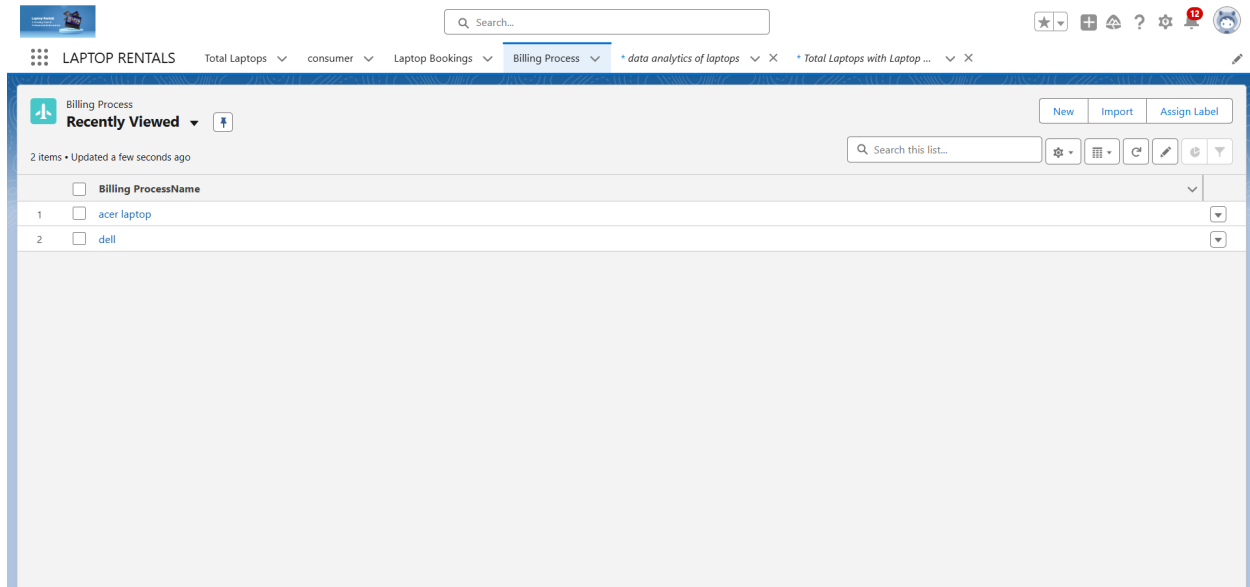
The custom Lightning app **Laptop Rentals** features easy navigation with tabs for key components, including **Bookings**, **Reports**, and **Dashboards**.

- Configured Page Layouts for **Laptop_Bookings__c** and **Laptops__c** with relevant fields, sections, and related lists for ease of access.
- Designed dashboards for quick visual insights on active rentals, availability and top-performing laptops.
- Custom Lightning components may be added to enhance specific sections, such as displaying a chart of most rented laptop models.

Navigation Items on Laptop Rental Application:

The screenshot shows a web application interface for 'Laptop Rentals'. The top navigation bar includes a search bar and several tabs: 'Laptop Bookings', 'Billing Process', and two data analytics tabs. The 'Laptop Bookings' tab is active, displaying a table of 8 items. The table has a header row with a checkbox and a dropdown arrow. The items are listed with their respective laptop models: 'hp laptop', 'dell laptop', 'acer laptop', 'mac book', 'hp laptop', 'acer laptop', 'dell laptop', and 'dell laptop'. The table is titled 'Recently Viewed' and includes a search bar and action buttons like 'New', 'Import', and 'Assign Label'.

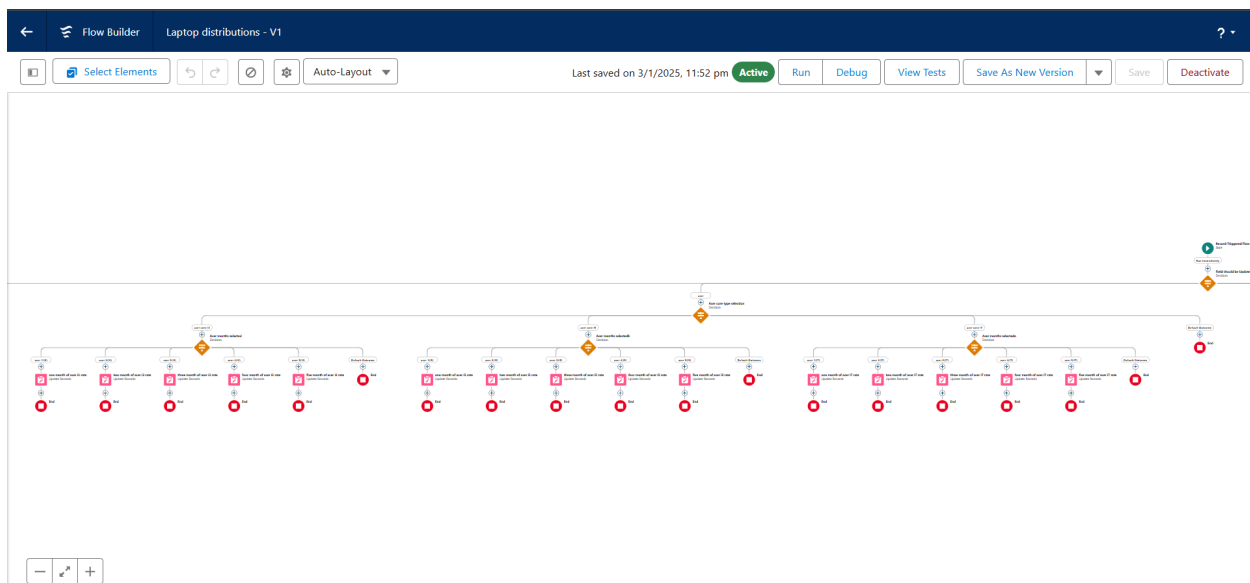
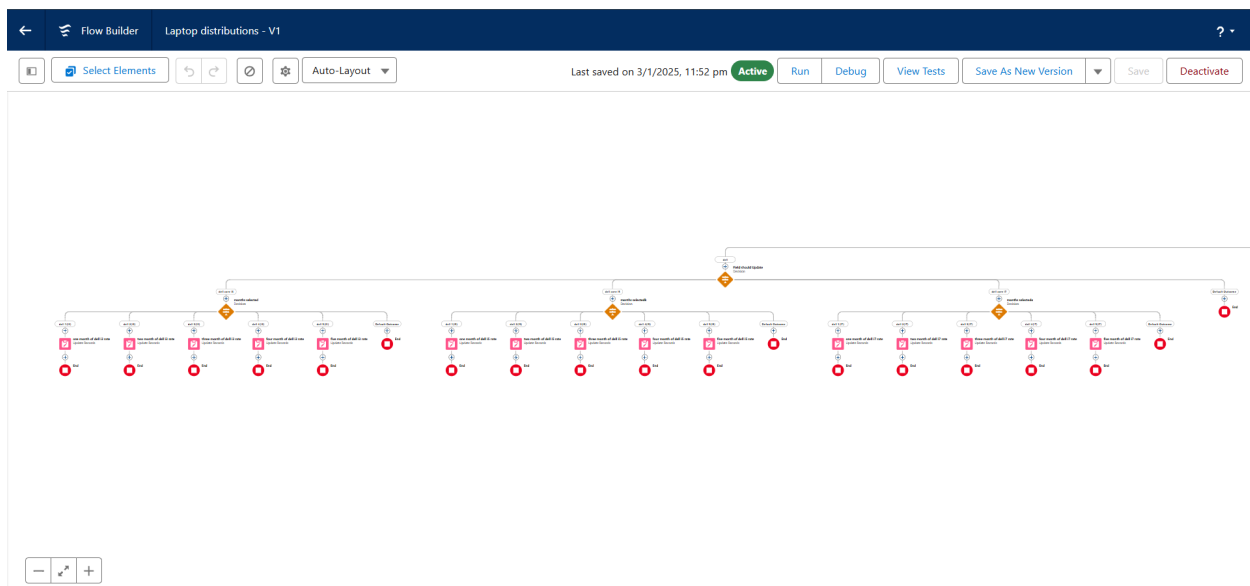
	<input type="checkbox"/> Laptop Bookings	
1	<input type="checkbox"/> hp laptop	
2	<input type="checkbox"/> dell laptop	
3	<input type="checkbox"/> acer laptop	
4	<input type="checkbox"/> mac book	
5	<input type="checkbox"/> hp laptop	
6	<input type="checkbox"/> acer laptop	
7	<input type="checkbox"/> dell laptop	
8	<input type="checkbox"/> dell laptop	

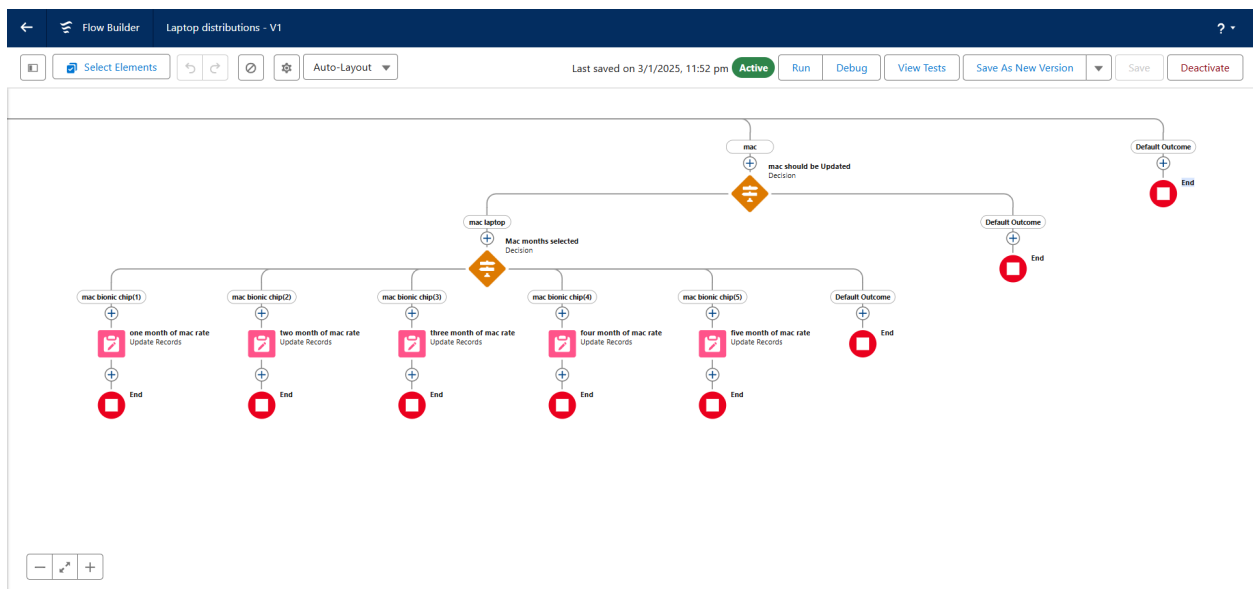


Business Logic Design:

- Developed the LaptopBookingHandler class to handle email notifications using **Messaging.SingleEmailMessage**.
- Added the **AfterInsert trigger** on **Laptop_Booking__c** to initiate sendEmailNotification method, ensuring customers receive a welcome and confirmation email after booking.

Flow Automation:





Flow Builder: Laptop distributions - V1

Last saved on 3/1/2025, 11:52 pm **Active** Run Debug View Tests Save As New Version Save Deactivate

Select Elements Auto-Layout

Default Outcome End

mac bionic chip(1)

Update Records

- Copy Element
- Cut Element
- Delete Element
- Add Fault Path
- Edit Element

Update Records

* Label: one month of mac rate * API Name: one_month_of_mac_rate

Description

* How to Find Records to Update and Set Their Values

- ☒ Use the laptop bookings record that triggered the flow
- ☐ Update records related to the laptop bookings record that triggered the flow
- ☐ Use the IDs and all field values from a record or record collection
- ☐ Specify conditions to identify records, and set fields individually

Set Filter Conditions

Condition Requirements to Update Record

None—Always Update Record

Set Field Values for the Laptop Bookings Record

Field: Amount_c Value: 1700

Add Field

Validation Rule:

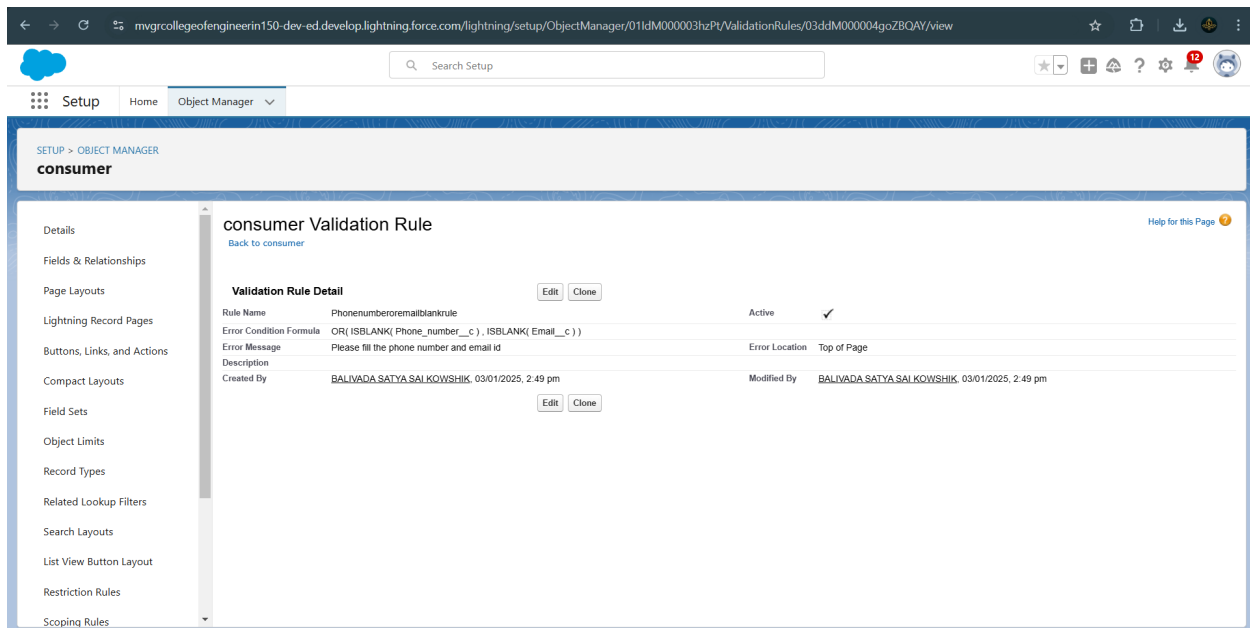
Setup > OBJECT MANAGER consumer

Validation Rules

1 Items, Sorted by Rule Name

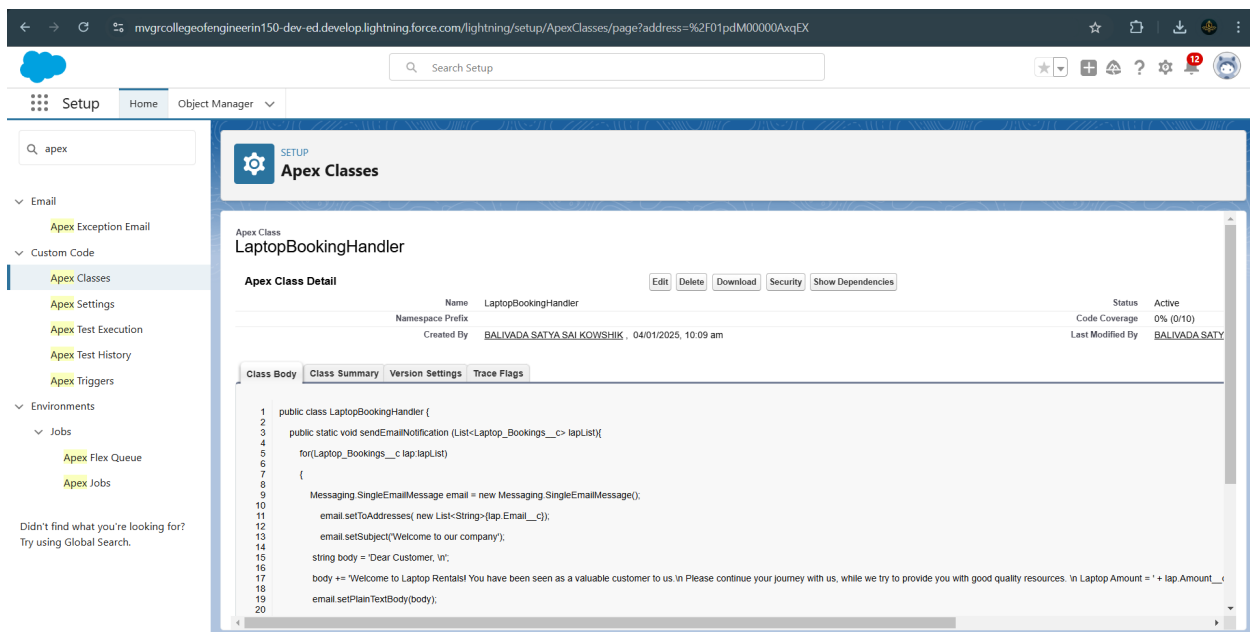
RULE NAME	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY
Phonenumberoremailblankrule	Top of Page	Please fill the phone number and email id	✓	BALIVADA SATYA SAI KOWSHIK, 03/01/2025, 2:49 pm

Conditional Formula:



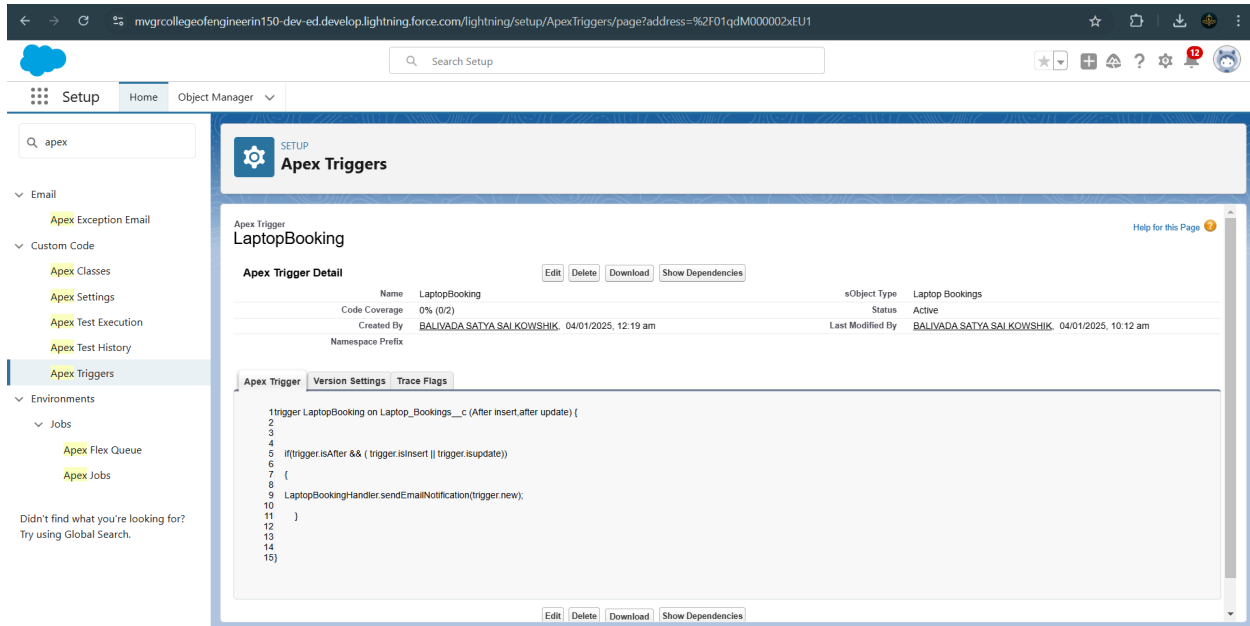
Apex class:

Created Apex class with name of **LaptopBookingHandler**



Apex Triggers:

Created an APEX Trigger with name of **LaptopBooking**



Reports and Dashboards:

Reports and dashboards in Salesforce provide valuable insights into the Laptop rentals CRM application, helping the business monitor bookings, revenue, and customer trends effectively.

Reports:

- **Tabular Reports:** Used for simple lists, such as a full list of active laptop bookings or consumer records, giving a quick snapshot of data.
- **Summary Reports:** Offers data with grouped subtotals, such as revenue grouped by laptop type, making it easy to identify high performing categories.

Dashboards:

- **Revenue Overview:** Shows total rental revenue over time, helping track financial performance.
- **Popular Laptops:** Displays the most rented laptop types, aiding inventory and marketing decisions.
- **Customer Insights:** Provides data on customer types, helping target future marketing campaigns more effectively.

Report: consumer with Laptop Bookings and Total Laptops

Total Laptops with Laptop bookings

Enable Field Editing

Q

Add Chart

▼

↺

Edit

▼

Total Records8

Total Amount₹2,24,900

Total Laptops Available378

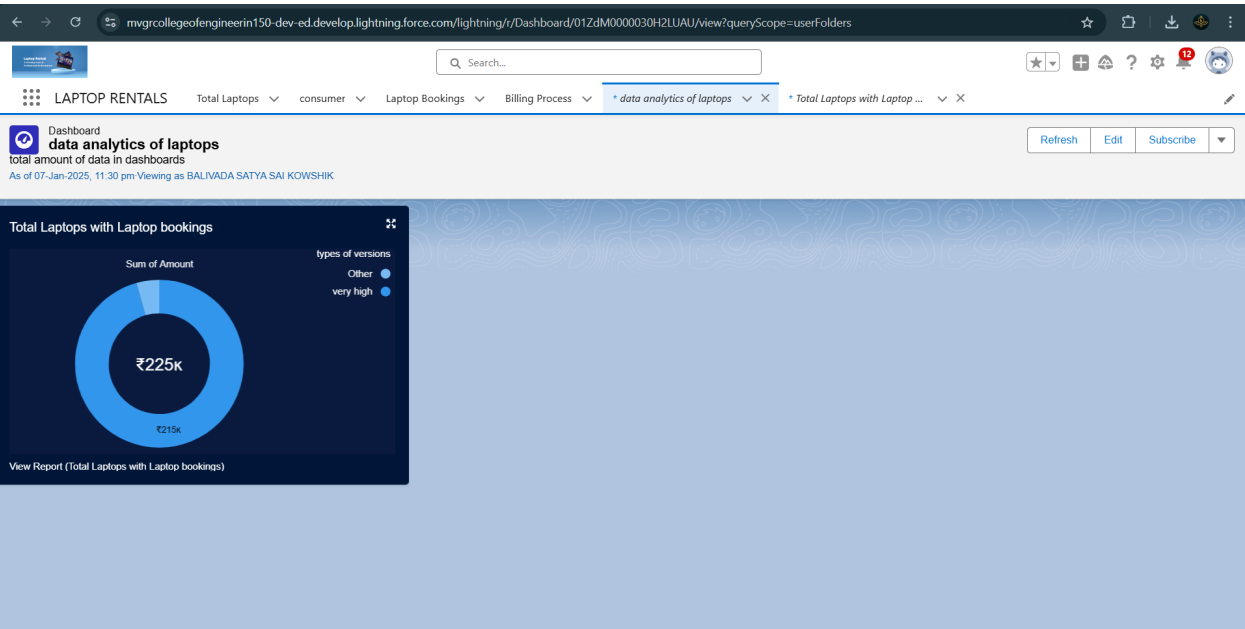
<input type="checkbox"/> types of versions ↑ ▼	Laptop Bookings: Laptop Bookings	consumer: consumer_name	Amount	Laptops Available	Total Laptops: Total Laptops
<input type="checkbox"/> basic (1)	hp laptop	bhargav	₹700	47	5
Subtotal			₹700	47	
<input type="checkbox"/> intermediate (2)	dell laptop	santosh	₹1,000	48	3
	acer laptop	uday	₹1,500	47	10
Subtotal			₹2,500	95	
<input type="checkbox"/> high (3)	dell laptop	santosh	₹2,500	47	10
	acer laptop	uday	₹1,800	47	10
	hp laptop	bhargav	₹2,400	47	5
Subtotal			₹6,700	141	
<input type="checkbox"/> very high (2)	dell laptop	santosh	₹95,000	48	3
	mac book	bhargav	₹1,20,000	47	5
Subtotal			₹2,15,000	95	
Total (8)			₹2,24,900	378	

Row Counts

Detail Rows

Subtotals

Grand Total



4. Testing and Validation:

● Unit Testing:

Each Apex class and trigger was thoroughly tested, ensuring at least 75% code coverage. Tests were designed to validate that:

- Booking confirmation emails are sent correctly.
- Inventory statuses update accurately.

● User Interface Testing:

Verified that the UI elements display correctly on page layouts and that all required fields and related lists are accessible. Ensured users could access only the fields allowed by their profile permissions.

● Test Scenarios:

- **Scenario 1:** Create a new booking and verify that an email is sent with the correct booking details.

- **Scenario 2:**

Check that validation rules enforce required fields like Email_c and Amount_c.

- **Scenario 3:**

Test that inventory adjust automatically when a booking status is changed from "Booked" to "Returned."

5. Key Scenarios Addressed by Salesforce in the Implementation Project:

This project addresses several critical scenarios to ensure a smooth rental experience for both customers and staff:

- **Automated Notifications:**

Automatically send confirmation emails when a booking is created and provide status updates as the rental progresses. This keeps customers informed and reduces the workload for staff.

- **Real-Time_Inventory_Management:**

Track the availability of laptops in real time, updating inventory counts when laptops are rented and returned.

- **Workflow_Automation_for_Booking_Lifecycle:**

Manage booking statuses with automation, moving each booking from "Booked" to "In Use" and finally "Returned" without manual intervention.

- **Role-Based_Data_Access:**

Define roles and permissions, allowing staff to manage bookings and customers, while customers can only access their rental information.

6. Conclusion:

The **Laptop Rentals CRM** application demonstrates an effective use of Salesforce to automate and manage key rental business processes. Leveraging custom objects, Apex programming, and flow automation, the project streamlines data management and enhances customer interactions. Key features like email notifications, dynamic pricing, and streamlined booking processes have improved both customer experience and operational efficiency.

Salesforce's reporting and dashboard tools offer valuable insights into rental trends, revenue tracking, and decision-making. With validation rules and role-based access, the solution ensures data security and integrity, supporting sustainable business growth. This project not only meets immediate objectives but also establishes a scalable foundation for future enhancements, positioning Laptop Rentals for long-term success in customer satisfaction and operational efficiency.