

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:

Setup	Home	Object Manager
-------	------	----------------

SETUP > OBJECT MANAGER
Laptop Bookings

Details

Fields & Relationships
 11 Items, Sorted by Field Label

Quick Find
 New
 Deleted Fields
 Field Dependencies
 Set History Tracking

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.

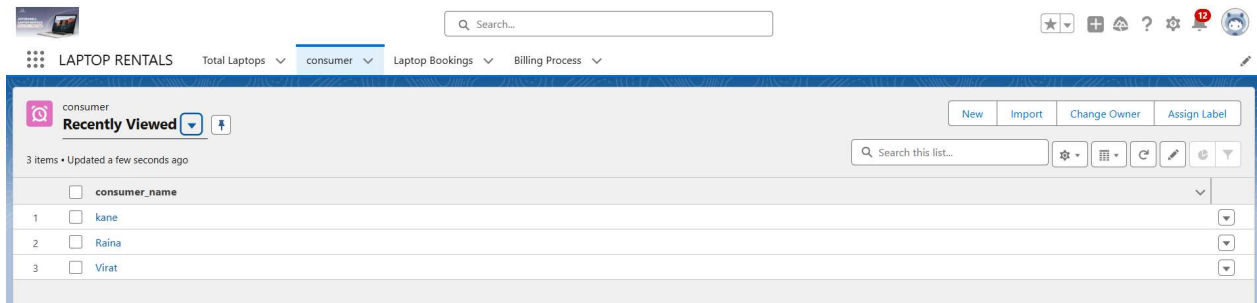
- Designed dashboards for quick visual insights on active rentals, availability and top-performing

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:



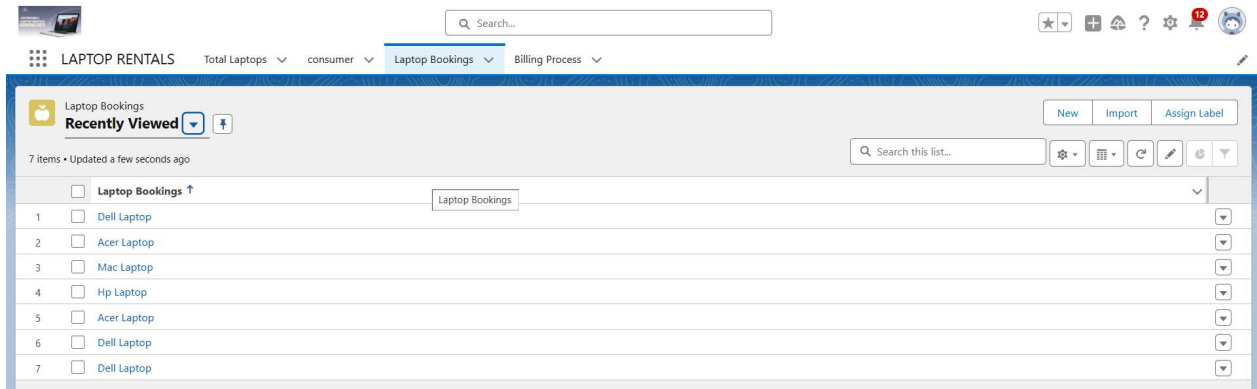
consumer

Recently Viewed

3 items • Updated a few seconds ago

Search this list...

	<input type="checkbox"/>	consumer_name	
1	<input type="checkbox"/>	kane	
2	<input type="checkbox"/>	Raina	
3	<input type="checkbox"/>	Virat	



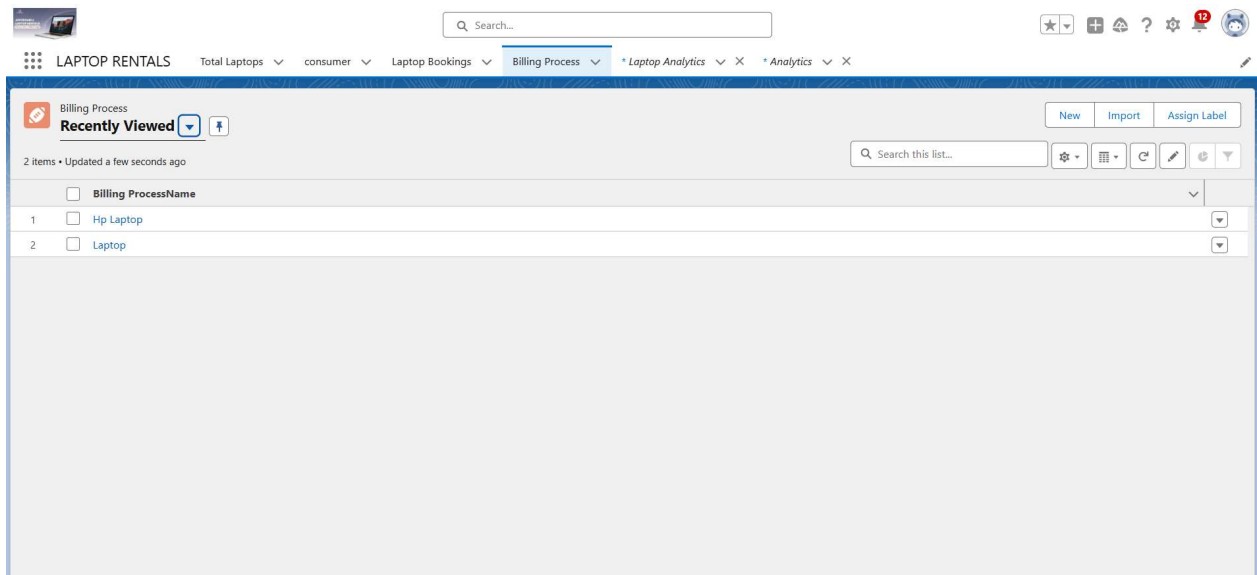
Laptop Bookings

Recently Viewed

7 items • Updated a few seconds ago

Search this list...

	<input type="checkbox"/>	Laptop Bookings	
1	<input type="checkbox"/>	Dell Laptop	
2	<input type="checkbox"/>	Acer Laptop	
3	<input type="checkbox"/>	Mac Laptop	
4	<input type="checkbox"/>	Hp Laptop	
5	<input type="checkbox"/>	Acer Laptop	
6	<input type="checkbox"/>	Dell Laptop	
7	<input type="checkbox"/>	Dell Laptop	



Billing Process

Recently Viewed

2 items • Updated a few seconds ago

Search this list...

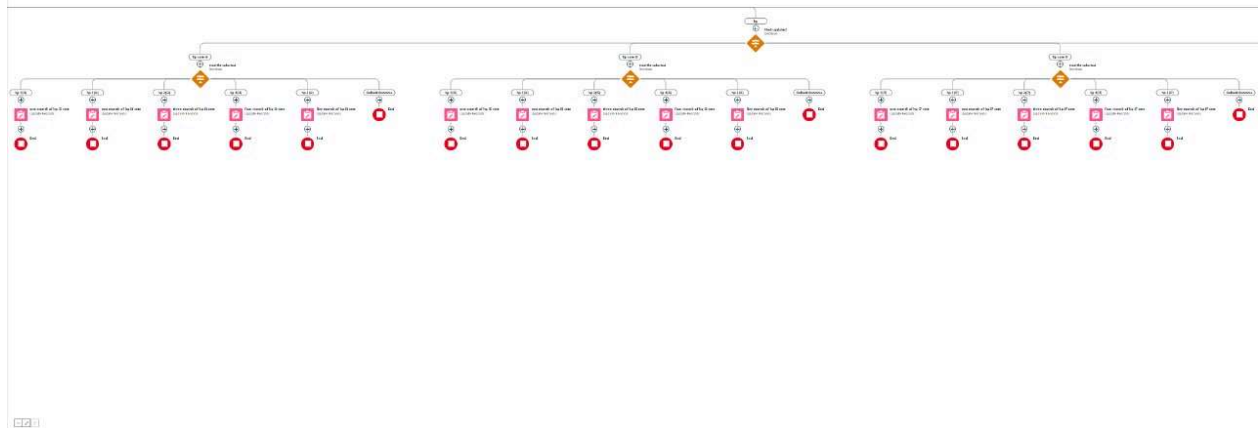
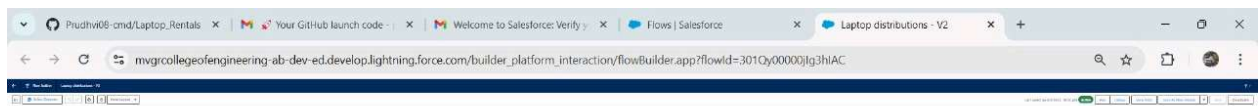
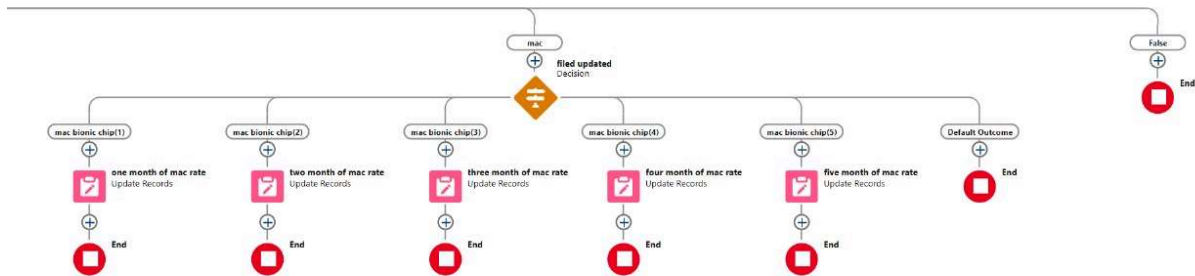
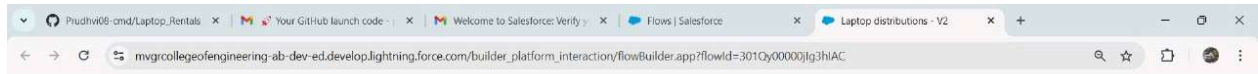
	<input type="checkbox"/>	Billing ProcessName	
1	<input type="checkbox"/>	Hp Laptop	
2	<input type="checkbox"/>	Laptop	

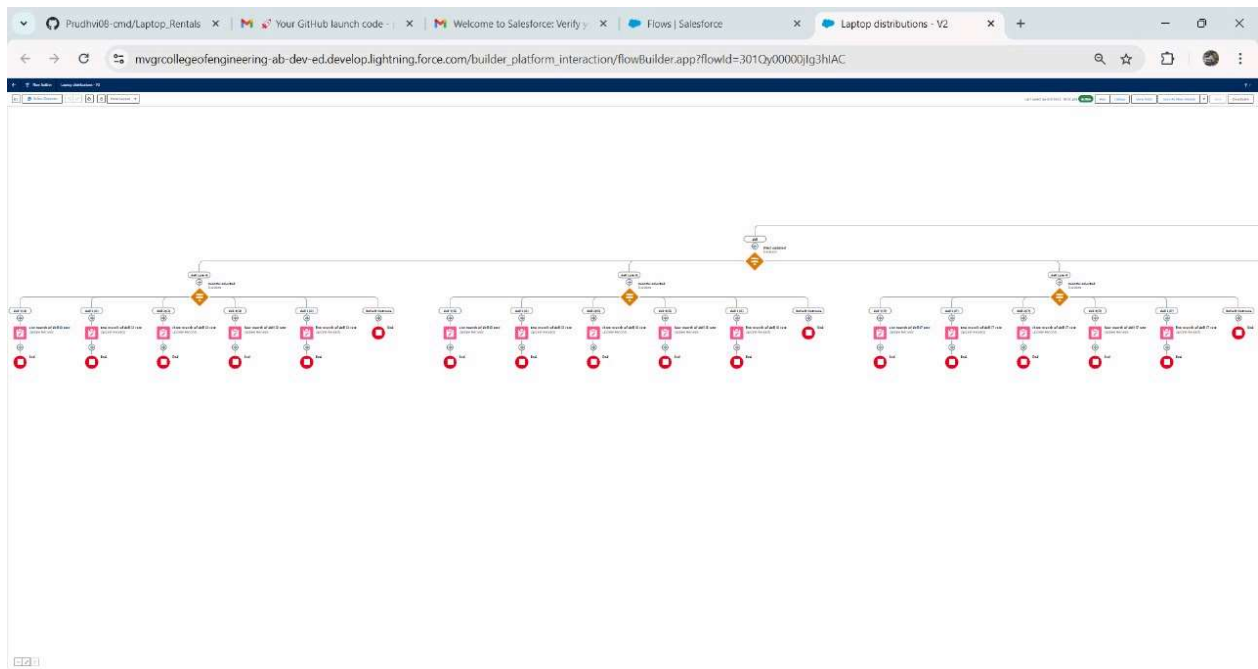
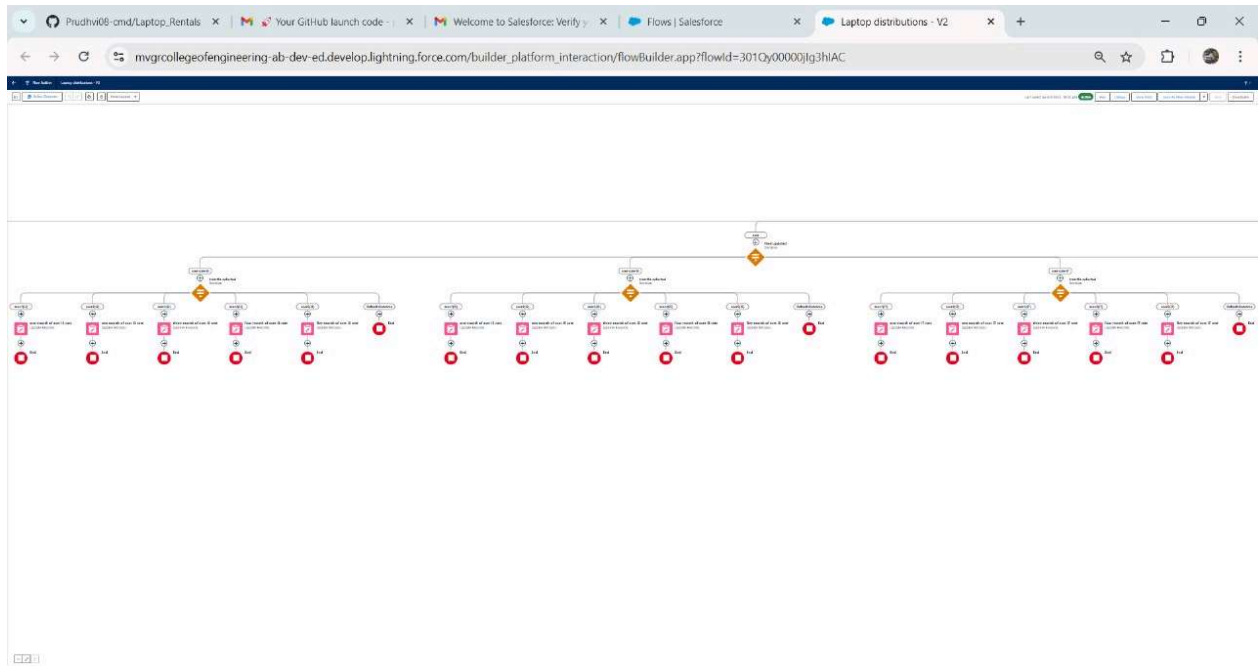
Business Logic Design:

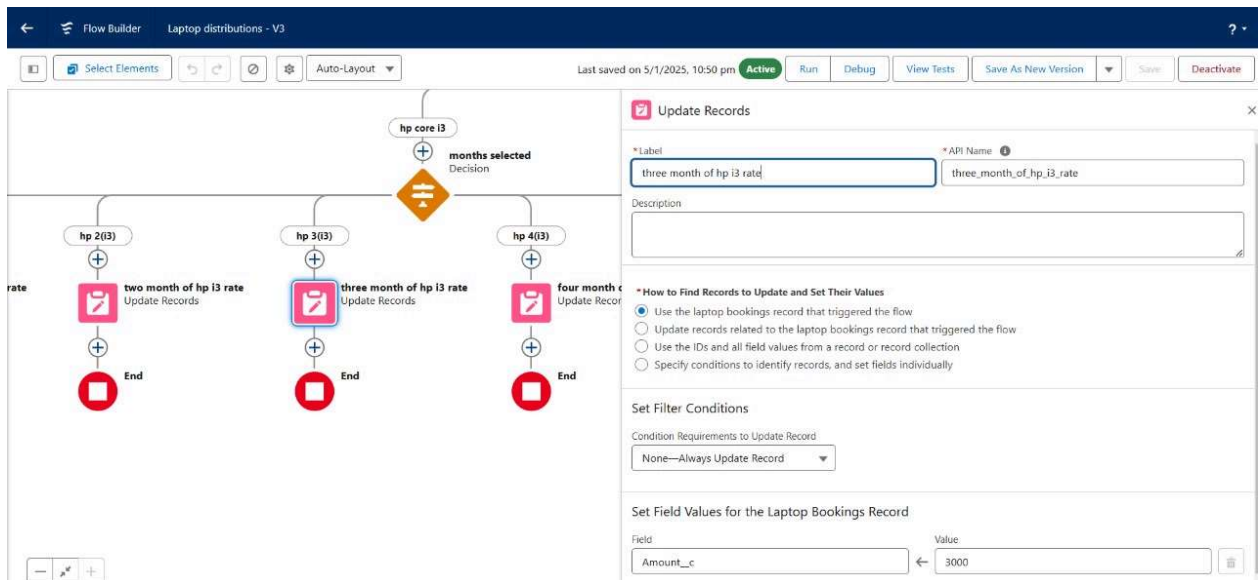
- Developed the LaptopBookingHandler class to handle email notifications using Messaging.SingleEmailMessage.
- Added the AfterInsert trigger on Laptop_Booking__c to initiate

sendEmailNotification method, ensuring customers receive a welcome and confirmation email after booking.

Flow Automation:







Validation Rule:

Setup | Home | Object Manager

SETUP > OBJECT MANAGER

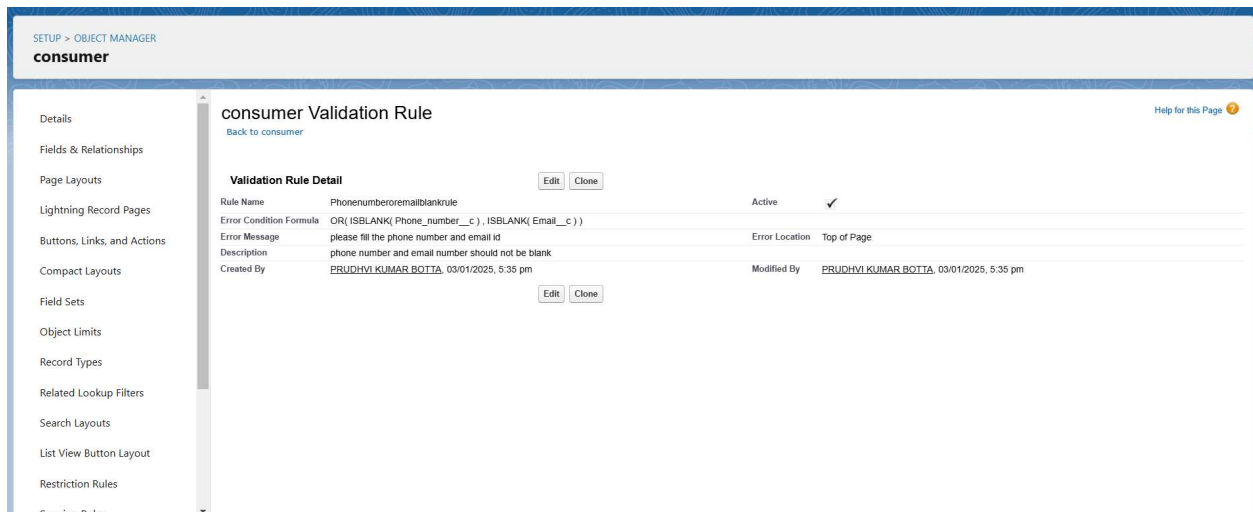
consumer

Validation Rules

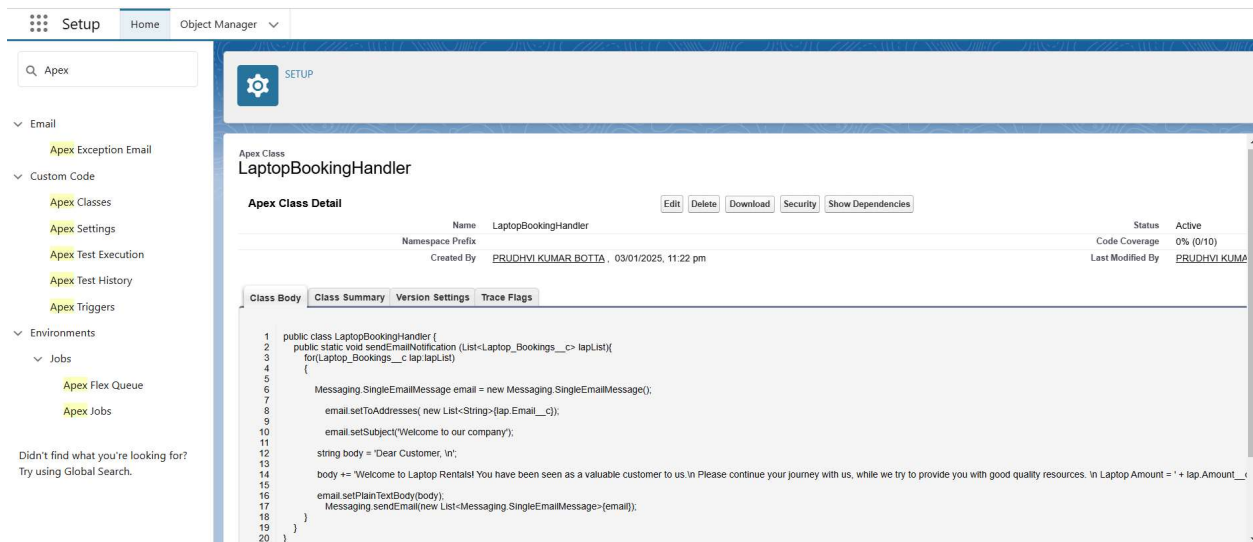
1 Items, Sorted by Rule Name

RULE NAME	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY
Phonenumberoremailblankrule	Top of Page	please fill the phone number and email id	✓	PRUDHVI KUMAR BOTTA, 03/01/2025, 5:35 pm

Conditional Formula:

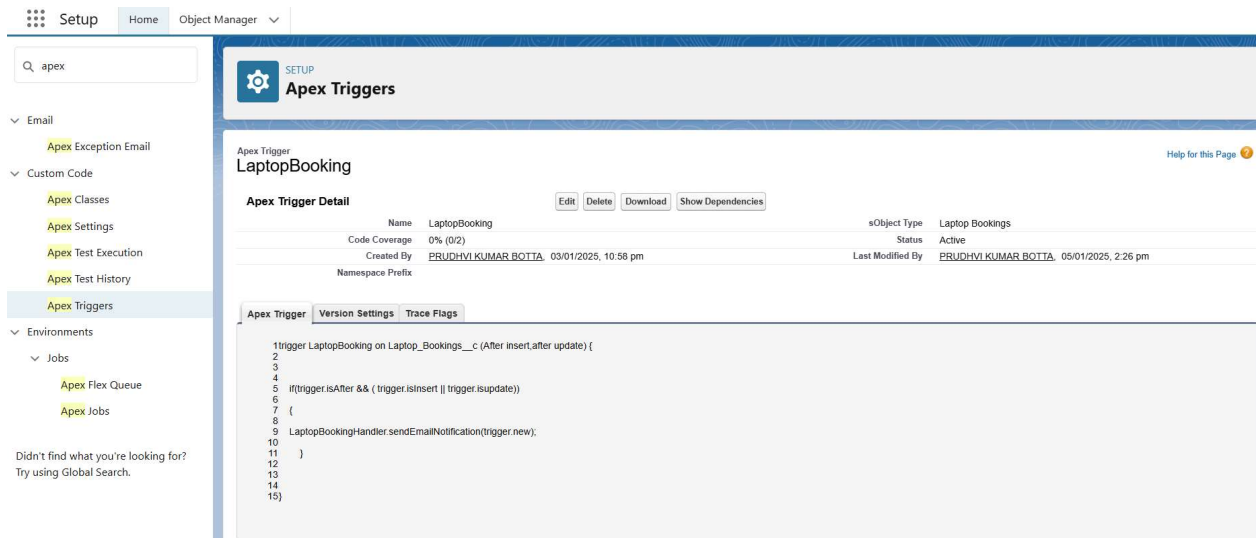


Apex class:



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:

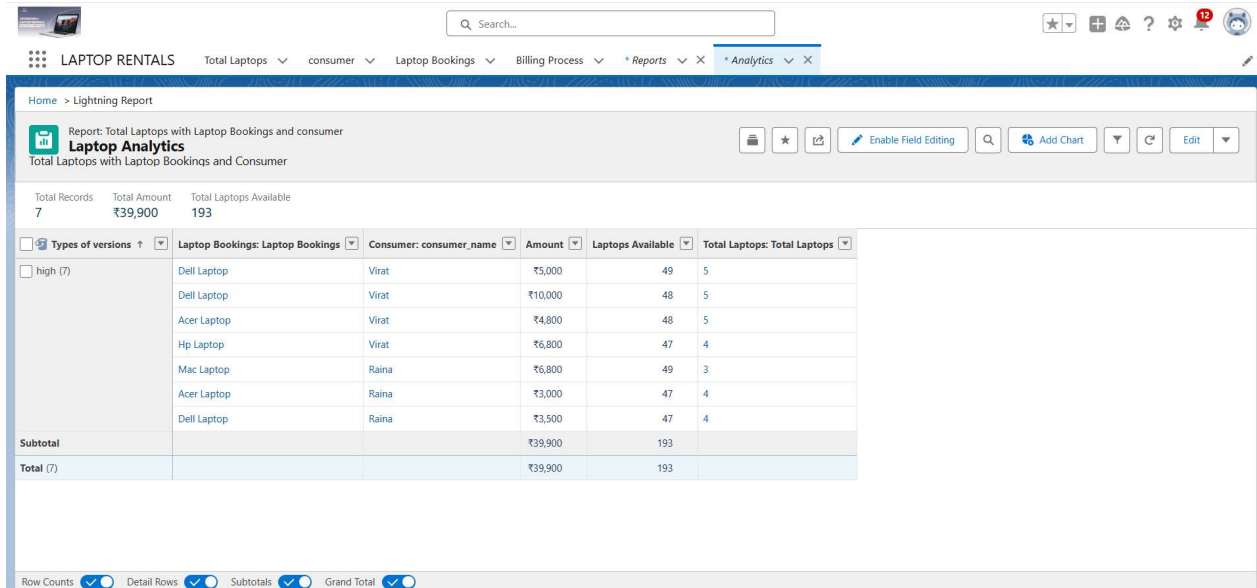
- Revenue Overview: Shows total rental revenue over time, helping track financial performance.

- Popular Laptops: Displays the most rented laptop types, aiding inventory and

marketing decisions.

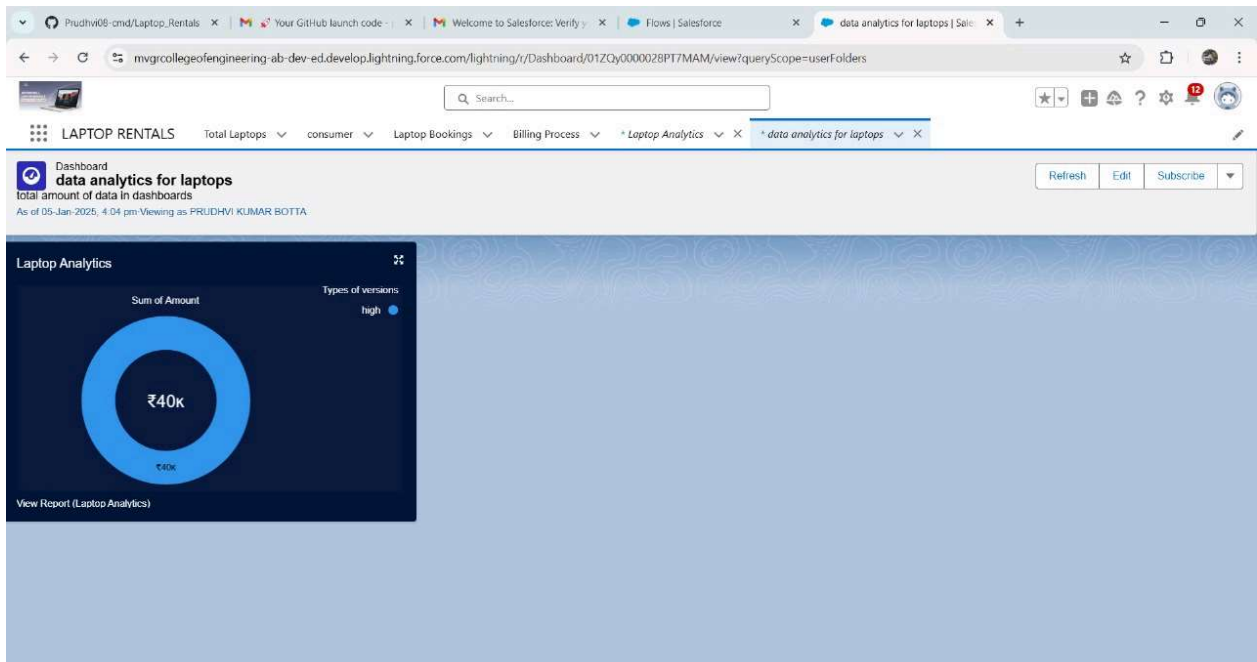
- Customer Insights: Provides data on customer types, helping target future marketing campaigns more

effectively.



The screenshot shows a Lightning Report interface. At the top, there's a search bar and navigation tabs for 'LAPTOP RENTALS', 'Total Laptops', 'consumer', 'Laptop Bookings', 'Billing Process', 'Reports', and 'Analytics'. The report title is 'Report: Total Laptops with Laptop Bookings and consumer'. Below the title, there are summary statistics: Total Records: 7, Total Amount: ₹39,900, and Total Laptops Available: 193. The main table has columns for 'Types of versions', 'Laptop Bookings: Laptop Bookings', 'Consumer: consumer_name', 'Amount', 'Laptops Available', and 'Total Laptops: Total Laptops'. The table lists 7 records for different laptop models and consumers, with a subtotal and total row. At the bottom, there are checkboxes for 'Row Counts', 'Detail Rows', 'Subtotals', and 'Grand Total'.

Types of versions	Laptop Bookings: Laptop Bookings	Consumer: consumer_name	Amount	Laptops Available	Total Laptops: Total Laptops
high (7)	Dell Laptop	Virat	₹5,000	49	5
	Dell Laptop	Virat	₹10,000	48	5
	Acer Laptop	Virat	₹4,800	48	5
	Hp Laptop	Virat	₹6,800	47	4
	Mac Laptop	Raina	₹6,800	49	3
	Acer Laptop	Raina	₹3,000	47	4
	Dell Laptop	Raina	₹3,500	47	4
Subtotal			₹39,900	193	
Total (7)			₹39,900	193	



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.