

## **Project Title:**

### **A CRM APPLICATION FOR LAPTOP RENTALS**

#### **1. Project Overview:**

This project focuses on optimizing Salesforce to streamline operations for a laptop rental service, addressing the primary challenge of managing rental inventory and customer interactions efficiently. The goal is to develop a comprehensive CRM and inventory tracking solution using Salesforce, enhancing data accuracy, improving customer experience, and supporting efficient rental management. Through this project, we aim to boost operational efficiency, provide real-time insights, and support the business's long-term growth in the laptop rental market. CRM Application on Laptop rentals is about delivering the items to the customers by rental purpose. It leverages the power of customer relationship management (CRM) to enhance customer experiences, optimize store operations, and improve overall efficiency. Additionally to these, It is also an effective CRM i.e via communicating through email with the potential customers identified.

#### **2. Objectives:**

- **Business Goals:**

- Enhance customer satisfaction by delivering an efficient and streamlined rental process.
- Improve customer retention and loyalty through personalized communications and timely support.
- Boost rental sales and conversion rates by identifying and engaging potential customers.

- **Specific Outcomes:**

- **CRM Integration:** Successfully implement Salesforce CRM to centralize customer data and track rental activity.
- **Inventory Management:** Develop a system to monitor laptop availability, rental status, and maintenance schedules in real-time.
- **Automated Communication:** Enable targeted email campaigns and personalized outreach to engage potential customers identified by the CRM system.
- **Data Accuracy & Reporting:** Ensure data accuracy and generate insightful reports for tracking customer behavior, rental trends, and operational efficiency.
- **Enhanced Customer Experience:** Create a seamless experience for users from initial contact through the entire rental lifecycle, improving overall satisfaction and service quality.

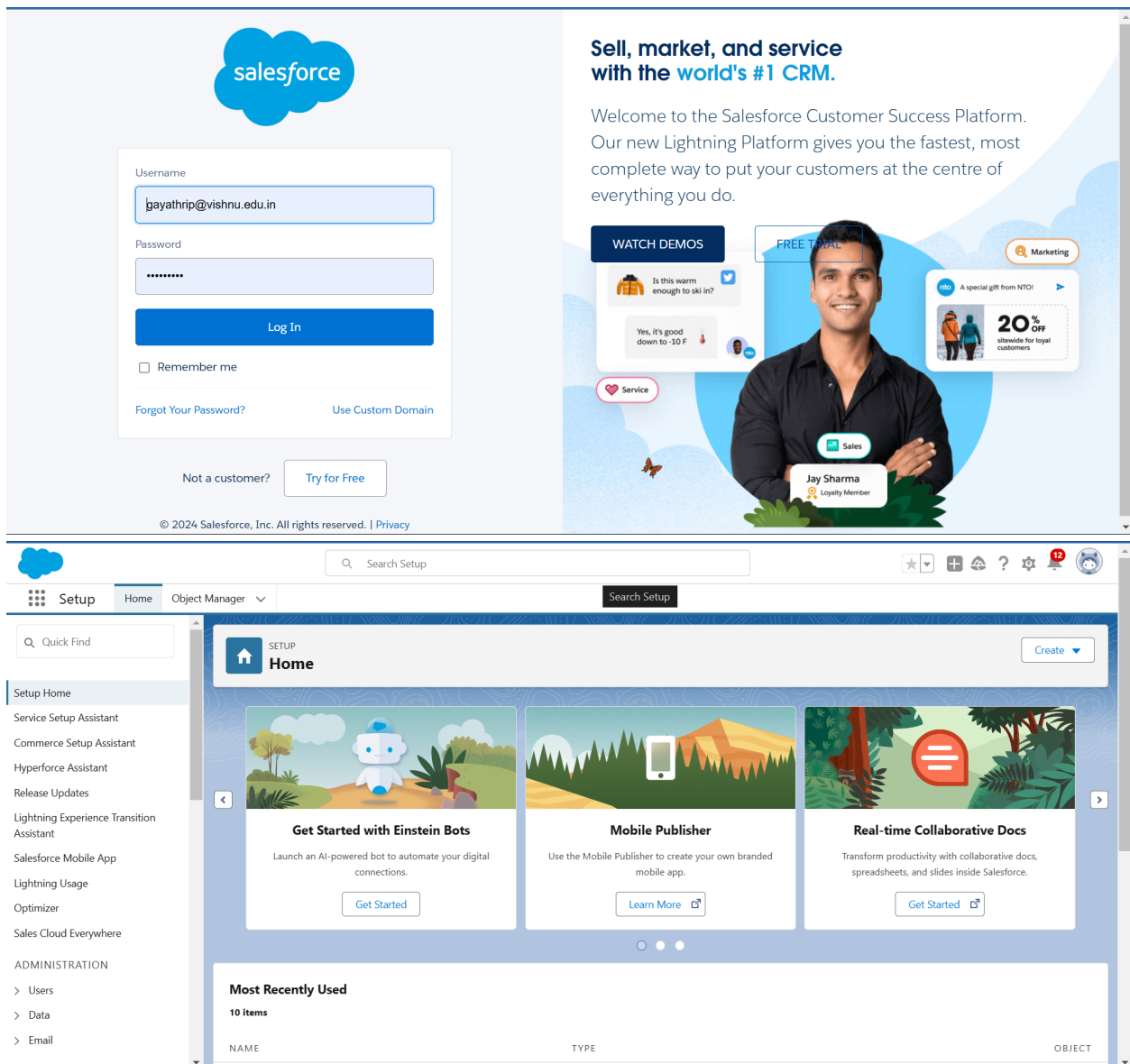
### 3. Salesforce Key Features and Concepts Utilized:

- **Salesforce CRM:** Leveraged to centralize customer data, track interactions, and manage customer relationships efficiently.
- **Salesforce Flow & Automation:**
  - **Process Builder and Flow Builder:** Used to automate key processes, including rental confirmations, notifications, and follow-up emails, reducing manual effort.
  - **Approval Processes:** Implemented for rental requests and returns, ensuring standardized approval workflows.
- **Salesforce Email Integration:**
  - **Email Templates and Campaigns:** Created customized email templates for targeted campaigns to engage potential customers and notify existing ones about rental status.
  - **Automation for Customer Outreach:** Enabled scheduled emails and reminders to improve customer engagement and retention.
- **Inventory and Asset Management:**
  - **Custom Objects and Fields:** Designed for tracking laptop availability, rental status, and maintenance records.
  - **Reports and Dashboards:** Configured to provide real-time visibility into inventory levels, rental performance, and customer activity.
- **Data Analytics and Reporting:**
  - **Reports:** Built to analyze customer trends, rental rates, and identify high-demand periods.
  - **Dashboards:** Customized to provide a visual snapshot of business metrics, enabling quick decision-making.
- **User Access Control:**
  - **Role-Based Access and Permissions:** Set up to secure sensitive customer data and control access based on user roles.
- **Customer Case Management:**
  - **Case Tracking:** Used to handle customer inquiries, requests, and issues throughout the rental lifecycle, ensuring efficient support.

## 4. Detailed Steps to Solution design:

### A. Salesforce Account Setup:

- Created a Salesforce account and configured initial settings to align with the project requirements.
- Ensured that the environment was set up for customization, with permissions and developer access enabled for designing the CRM application.



## B. Object Creation and Field Creation:

- Developed custom objects to manage essential data types specific to the laptop rental business, such as **Laptop Bookings**, **Total Laptops**, **Consumer**, and **Billing Process**.
- Created relationships between objects to track customer interactions, rental records, and inventory statuses.
- Added custom fields to objects to capture specific data points, such as rental period, customer details, device condition, and return dates.
- Ensured data types and field-level security aligned with business needs, promoting accuracy and relevance in data entry.

The screenshot shows the Salesforce Object Manager interface for the 'Laptop Bookings' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main content area is titled 'Fields & Relationships' and shows 11 items, sorted by Field Label. The table below lists the fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Currency(18, 0)		
core type	core__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_type__c	Picklist		
Laptops Available	Laptops_Available__c	Formula (Number)		

The screenshot shows the Salesforce Object Manager interface for the 'consumer' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main content area is titled 'Fields & Relationships' and shows 8 items, sorted by Field Label. The table below lists the fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Address	Address__c	Text Area(255)		
consumer Status	consumer_Status__c	Picklist		
consumer_name	Name	Text(80)		✓
Created By	CreatedById	Lookup(User)		
Email	Email__c	Email		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Phone number	Phone_number__c	Phone		

SETUP > OBJECT MANAGER  
**Total Laptops**

Details

**Fields & Relationships**  
6 Items, Sorted by Field Label

Quick Find: [ ] New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Laptops Available	Laptops_Available__c	Formula (Number)		
Laptops delivered	Laptops_delivered__c	Roll-Up Summary (COUNT Laptop Bookings)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Total Laptops	Name	Text(80)		✓

Left sidebar menu: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout.

SETUP > OBJECT MANAGER  
**Billing Process**

Details

**Fields & Relationships**  
7 Items, Sorted by Field Label

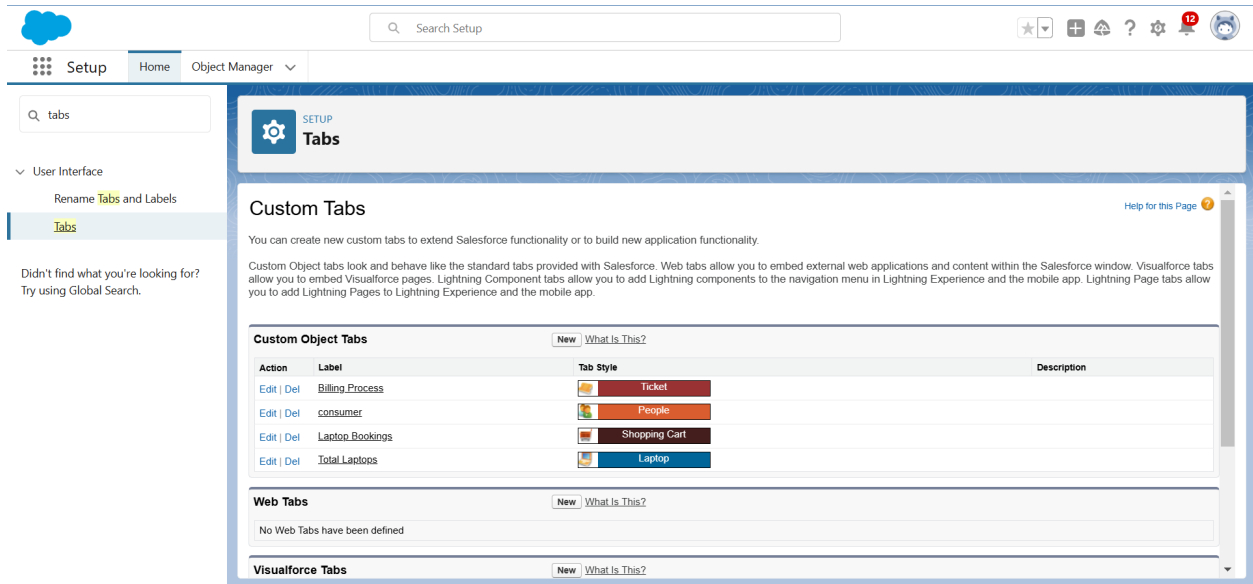
Quick Find: [ ] New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Formula (Number)		
Billing ProcessName	Name	Text(80)		✓
Created By	CreatedById	Lookup(User)		
Laptop Booking	Laptop_Booking__c	Lookup(Laptop Bookings)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Name	Name__c	Master-Detail(consumer)		✓
Payment Mode	Payment_Mode__c	Picklist		

Left sidebar menu: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout.

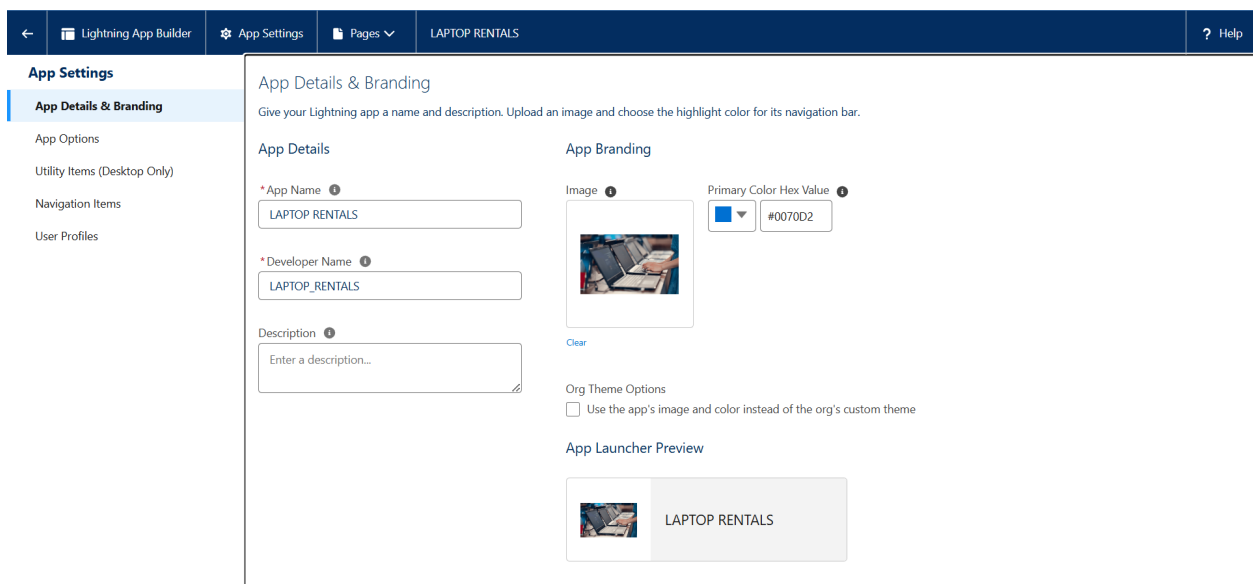
### C. Tab Selection:

- Created custom tabs for each main object, these tabs allowed easy navigation and quick access to key data entities within the application.
- Assigned visibility of each tab based on user profiles, ensuring only relevant users could view or access specific tabs.



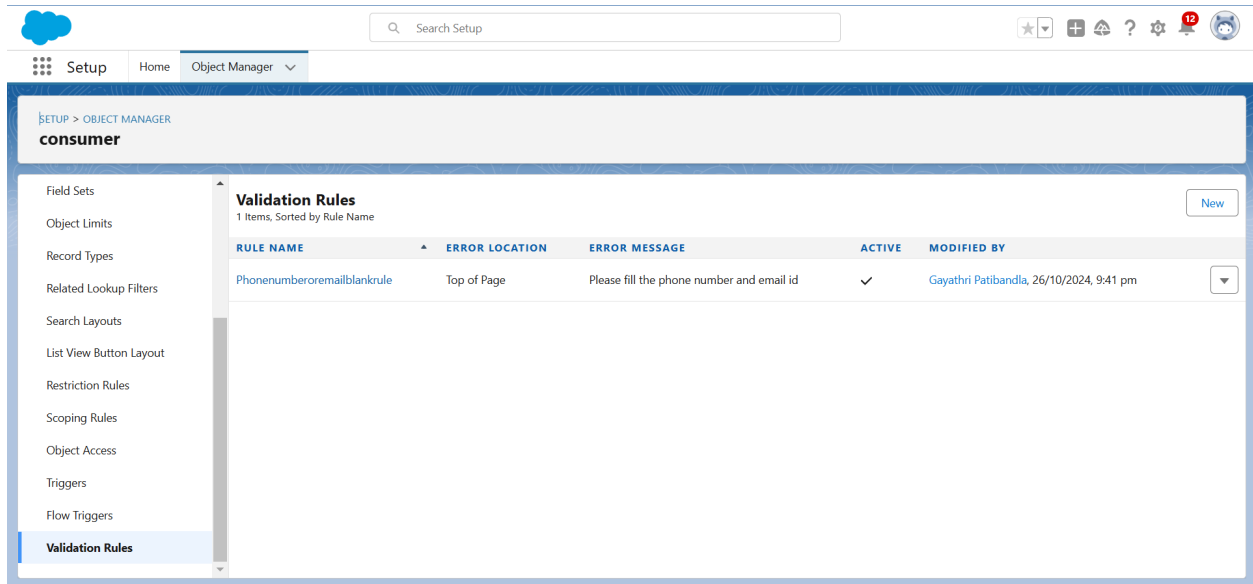
## D.Lightning App Setup:

- Developed a Custom Lightning App that serves as the main interface for the CRM application, bringing together objects, tabs, and key tools within a single app.
- Configured the app to include all necessary tabs, custom fields, and reports, ensuring that users can seamlessly navigate between customer records, rental data, and inventory status.



## E. Validation Rules:

- Implemented validation rules to enforce data integrity, such as mandatory fields for critical data (e.g., contact information).
- Validation rules prevented incomplete or incorrect entries, ensuring the reliability of customer and rental information.



## F. Profiles, Roles, and Hierarchy:

- Configured profiles with access permissions to ensure secure and appropriate access to sensitive customer and inventory data.
- Set up roles and role hierarchy to mirror organizational structure, controlling visibility and access based on team responsibilities.

**Setup Roles**

### Creating the Role Hierarchy

You can build on the existing role hierarchy shown on this page. To insert a new role, click **Add Role**.

**Your Organization's Role Hierarchy** Show in tree view

*Collapse All Expand All*

- Vishnu Institute of Technology
  - Add Role
  - CEO Edit | Del | Assign
    - Add Role
    - CFO Edit | Del | Assign
      - Add Role
      - COO Edit | Del | Assign
        - Add Role
        - owner Edit | Del | Assign
          - Add Role
          - Agent Edit | Del | Assign
            - Add Role
            - SVP, Customer Service & Support Edit | Del | Assign
              - Add Role
              - SVP, Human Resources Edit | Del | Assign
                - Add Role
                - SVP, Sales & Marketing Edit | Del | Assign

## G. User Creation and Management:

- Created and assigned users to different roles with appropriate access based on their functions within the CRM application.
- Established permissions that allowed each user to interact with data relevant to their roles, enhancing collaboration while maintaining data security.

**Setup Users**

### All Users

On this page you can create, view, and manage users.

To get more licenses, use the Your Account app. [Let's Go](#)

**View:** All Users Edit | Create New View

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Other All

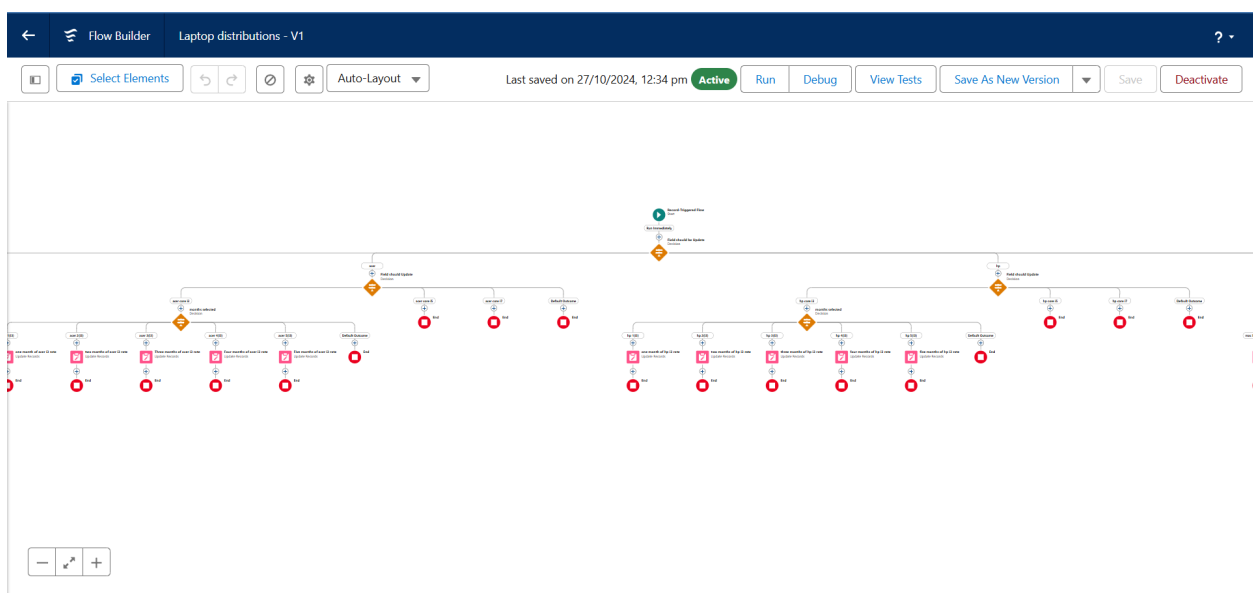
Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/> <a href="#">Edit</a>	Chatter Expert	Chatter	chatty.00ddm00000e5hbhuav.rgxtp95ftum@chatter.salesforce.com		✓	Chatter Free User
<input type="checkbox"/> <a href="#">Edit</a>	kane_vicky	vkane	vicky@vicky_vic	owner	✓	Standard User
<input type="checkbox"/> <a href="#">Edit</a>	Patibandla_Gayathri	GPati	gayathrip@vishnu.edu.in		✓	System Administrator
<input type="checkbox"/> <a href="#">Edit</a>	sam_ram	rsam	gayathricpatibandla36@gmail.com	Agent	✓	Standard Platform User
<input type="checkbox"/> <a href="#">Edit</a>	User_Integration	integ	integration@00ddm00000e5hbhuav.com		✓	Analytics Cloud Integration User
<input type="checkbox"/> <a href="#">Edit</a>	User_Security	sec	insightsecurity@00ddm00000e5hbhuav.com		✓	Analytics Cloud Security User

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Other All



## H. Flow Automation:

- Created a **single flow** that manages the rental processes for various laptop brands (Dell, Mac, HP, and Acer), utilizing conditional logic to ensure brand-specific steps are followed.
- The flow automates critical actions such as rental confirmations and reminder notifications, streamlining operations while enhancing customer communication across all laptop brands.



## I. Apex Classes and Triggers:

- Utilized Apex to implement custom business logic for complex operations that were beyond declarative tools, like advanced calculations or batch processing for rental renewals.
- Apex code provided greater flexibility and handled specific requirements efficiently.

**Apex Classes**

**Percent of Apex Used: 0.02%**  
You are currently using 1,113 characters of Apex Code (excluding comments and @isTest annotated classes) in your organization, out of an allowed limit of 6,000,000 characters. Note that the amount in use includes both Apex Classes and Triggers defined in your organization.

Estimate your organization's code coverage [\[i\]](#)  
Compile all classes [\[+\]](#)  
View: [All](#) [Create New View](#)

Action	Name	Namespace Prefix	Api Version	Status	Size Without Comments	Last Modified By	Has Trace Flags
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Security</a>	LaptopBookingHandler		62.0	Active	893	Gayathri.Patibandla, 27/10/2024, 3:45 pm	<input type="checkbox"/>
<a href="#">Edit</a>   <a href="#">Del</a>	LaptopBookingHandlerTest		62.0	Active	906	Gayathri.Patibandla, 29/10/2024, 12:03 pm	<input type="checkbox"/>

**Dynamic Apex Classes**

Dynamic Apex extends your programming reach by interacting with Lightning Platform components.

View: [All](#) [Create New View](#)

Class Name	Namespace Prefix	Api Version	Created By	Last Modified By
No records to display.				

**Apex Triggers**

**Percent of Apex Used: 0.02%**  
You are currently using 1,113 characters of Apex Code (excluding comments and @isTest annotated classes) in your organization, out of an allowed limit of 6,000,000 characters. Note that the amount in use includes both Apex Classes and Triggers defined in your organization.

Compile all triggers [\[+\]](#)  
View: [All](#) [Create New View](#)

Action	Name	Namespace Prefix	sObject Type	Api Version	Status	Size Without Comments	Last Modified By	Has Trace Flags
<a href="#">Edit</a>   <a href="#">Del</a>	LaptopBooking		Laptop_Bookings	62.0	Active	220	Gayathri.Patibandla, 27/10/2024, 3:43 pm	<input type="checkbox"/>

## J. Reports and Dashboards:

- Created reports to provide insights into business performance, such as rental trends, customer engagement, and inventory usage.
- Configured dashboards to visualize key metrics, offering stakeholders an at-a-glance view of business health and operational effectiveness.

LAPTOP RENTALS

Total Laptops

consumer

Laptop Bookings

Billing Process

Reports

×

Q Search...

★

+

🔍

?

⚙️

12

👤

Reports

Recent

1 item

Q Search recent reports...

New Report

New Folder

⚙️

REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed	
Recent	consumer with laptops and total laptops		Public Reports	Gayathri Patibandla	28/10/2024, 5:48 pm	✓	⌵
Created by Me							
Private Reports							
Public Reports							
All Reports							
FOLDERS							
All Folders							
Created by Me							
Shared with Me							
FAVORITES							
All Favorites							

javascriptvoid(0);

LAPTOP RENTALS

Total Laptops

consumer

Laptop Bookings

Billing Process

Reports

×

Dashboards

×

Q Search...

★

+

🔍

?

⚙️

12

👤

Dashboards

Recent

1 item

Q Search recent dashboards...

New Dashboard

New Folder

⚙️

DASHBOARDS	Dashboard Name	Description	Folder	Created By	Created On	Subscribed	
Recent	data analytics of laptops	total amount of data in dashboards	total rent amount	Gayathri Patibandla	28/10/2024, 6:01 pm		⌵
Created by Me							
Private Dashboards							
All Dashboards							
FOLDERS							
All Folders							
Created by Me							
Shared with Me							
FAVORITES							
All Favorites							

## 5. Testing and Validation:

### A. Unit Testing(Apex Classes, Triggers):

- Conducted thorough unit testing for all **Apex classes** and **triggers** to ensure that individual components function as expected.
- Verified that triggers executed the correct logic during record insertion, ensuring seamless integration with custom objects and maintaining data integrity.

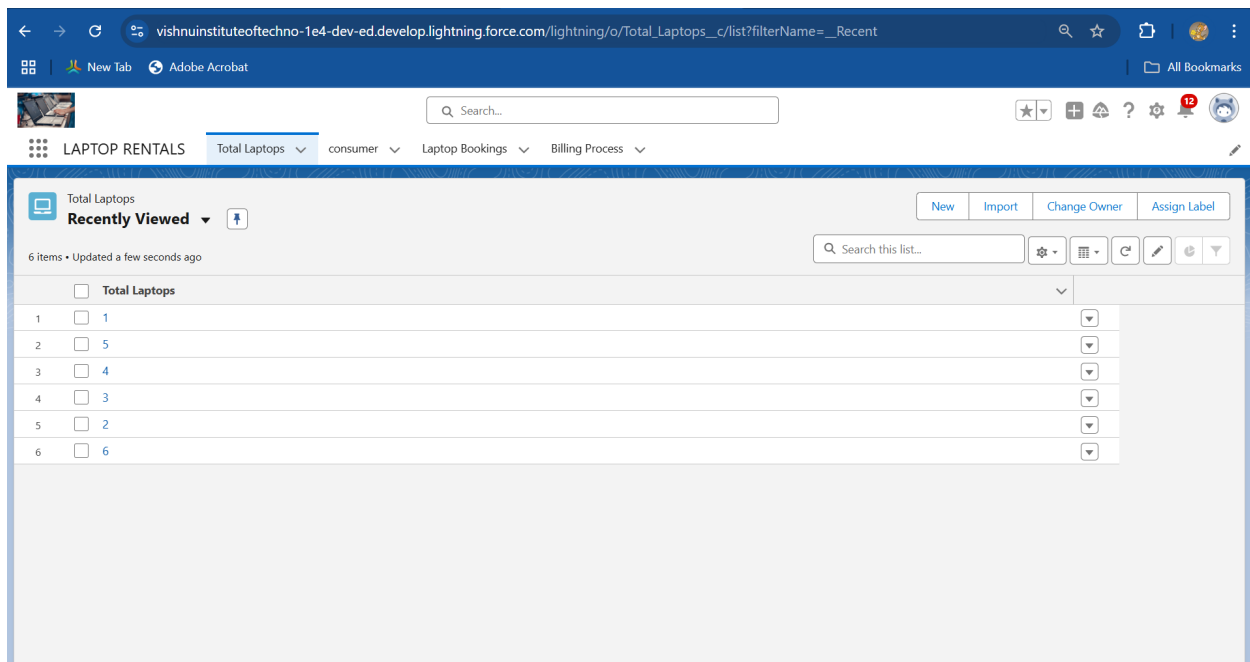
```
Developer Console - Google Chrome
vishnuinstituteoftechno-1e4-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

File Edit Debug Test Workspace Help < >
LaptopBookingHandler.apxc LaptopBooking.apxt
Code Coverage: None API Version: 62 Go To

1 public class LaptopBookingHandler {
2     public static void sendEmailNotification (List<Laptop_Bookings__c> lapList){
3
4         for(Laptop_Bookings__c lap:lapList)
5
6         {
7
8             Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
9
10            email.setToAddresses( new List<String>{lap.Email__c});
11
12            email.setSubject('Welcome to our company');
13
14            string body = 'Dear ' +lap.Name +', \n';
15
16            body += 'Welcome to Laptop Rentals! You have been seen as a valuable customer to us.\n Please continue your
17
18            email.setPlainTextBody(body);
19
20            Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{email});
21
22
23 }
```

## B .User Interface Testing:

- Performed comprehensive user interface (UI) testing on the Lightning App and custom tabs to validate usability and functionality.
- Ensured that the UI components displayed data accurately and that all buttons, links, and input fields functioned correctly, allowing users to perform actions seamlessly (e.g., submitting rental requests and viewing inventory).



## **6.Key Scenarios Addressed by Salesforce in the Implementation Project:**

### **A. Customer Management:**

- Salesforce enables efficient management of customer data, including personal information, rental history, and preferences, facilitating personalized communication and tailored services.

### **B. Rental Order Processing:**

- The system automates the entire rental order process, from submission and approval to confirmation and tracking.

### **C. Inventory Management:**

- Salesforce provides real-time visibility into laptop inventory, allowing staff to monitor availability, track device conditions, and manage maintenance schedules effectively.

### **D. Automated Notifications:**

- The application automates critical notifications for customers, including rental confirmations, reminders for return dates, and alerts for maintenance needs, enhancing customer engagement and satisfaction.

### **E. Reporting and Analytics:**

- Salesforce's reporting tools allow for the analysis of rental trends, customer behaviors, and operational performance, enabling data-driven decision-making and strategic planning.

### **F. User Roles and Security:**

- The implementation ensures appropriate access control through defined roles and profiles, securing sensitive customer and rental data while enabling users to perform their tasks effectively.

### **G. Issue Tracking and Resolution:**

- Salesforce facilitates efficient case management, allowing customer support teams to track and resolve inquiries or issues related to rentals, enhancing overall service quality.

## 7.Implementation:

Browser address bar: `vishnuinstituteoftechno-1e4-dev-ed.develop.lightning.force.com/lightning/o/Total_Laptops__c/list?filterName=_Recent`

Navigation: LAPTOP RENTALS | Total Laptops | consumer | Laptop Bookings | Billing Process

Section: Total Laptops Recently Viewed (6 items • Updated a few seconds ago)

Buttons: New, Import, Change Owner, Assign Label

Search: Search this list...

	<input type="checkbox"/> Total Laptops	
1	<input type="checkbox"/> 1	
2	<input type="checkbox"/> 5	
3	<input type="checkbox"/> 4	
4	<input type="checkbox"/> 3	
5	<input type="checkbox"/> 2	
6	<input type="checkbox"/> 6	

Navigation: LAPTOP RENTALS | Total Laptops | consumer | Laptop Bookings | Billing Process | \* consumer with laptops and... | \* Dashboards

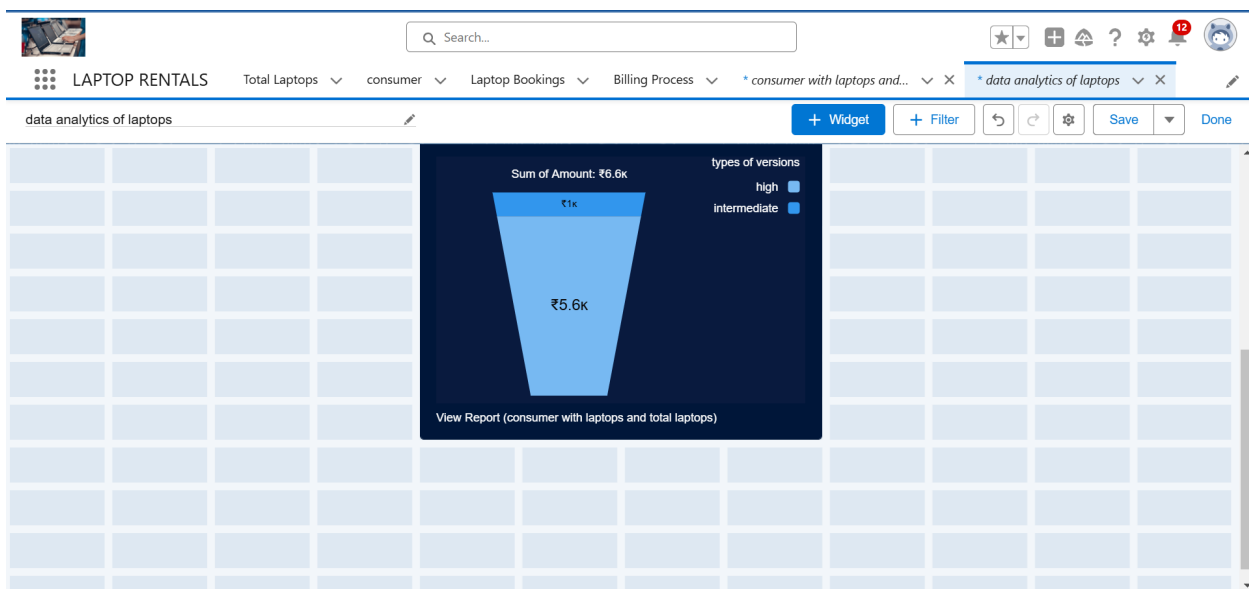
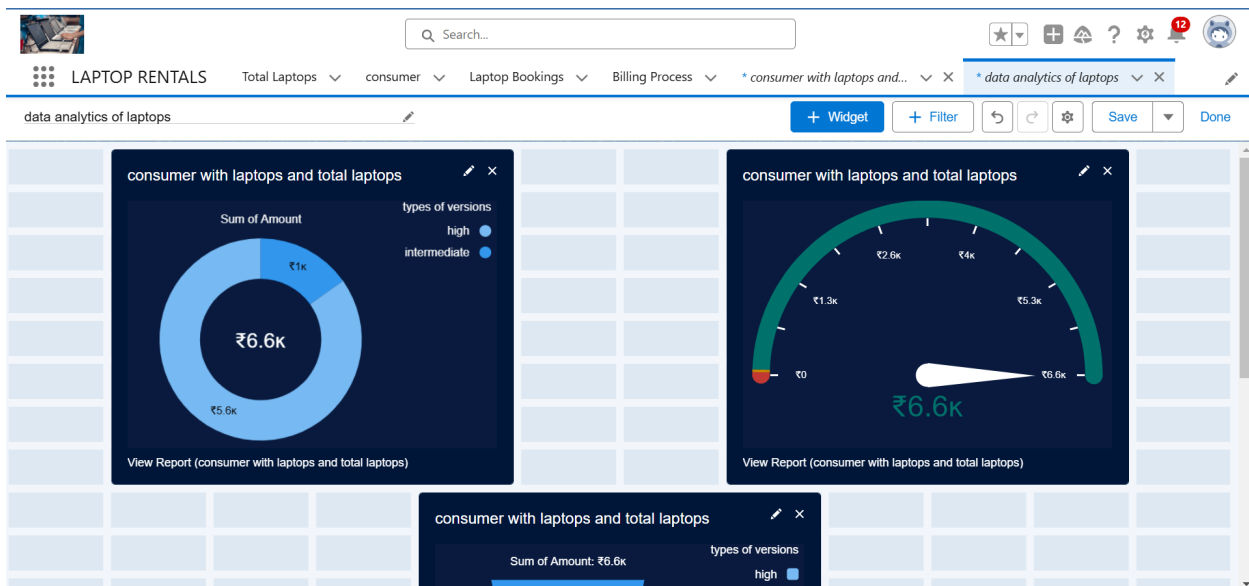
Section: Report: consumer with Laptop Bookings and Total Laptops  
**consumer with laptops and total laptops**

Buttons: Enable Field Editing, Add Chart, Edit

Total Records: 3 | Total Amount: ₹6,600

	Laptop Bookings: Laptop Bookings	consumer: consumer_name	Total No Of Laptops: Total Laptops	Laptop names	core type	Amount
<input type="checkbox"/> intermediate (1)	vyshu	vyshu	1	Dell	core i5	₹1,000
Subtotal						₹1,000
<input type="checkbox"/> high (2)	kanna	kanna	1	Mac	Bionic chip	₹2,000
	sikri	sikri	1	Acer	core i7	₹3,600
Subtotal						₹5,600
Total (3)						₹6,600

Row Counts: ☒ Detail Rows: ☒ Subtotals: ☒ Grand Total: ☒



## **8.Conclusion:**

In conclusion, the development of the Salesforce CRM Application for Laptop Rentals has resulted in significant improvements across various aspects of the rental process. Rental operations have been streamlined through automation, leading to increased efficiency. Customer communication has been enhanced with timely notifications, while valuable insights have been gained through reports and dashboards. Additionally, robust data security measures have been implemented, and marketing efforts have been strengthened with targeted email campaigns. Overall, this project lays a strong foundation for future growth and adaptability in the laptop rental business.

Submitted By

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