

A CRM APPLICATION FOR LAPTOP RENTALS

1. Overview of the Project

This project, titled **A CRM Application for Laptop Rentals**, focuses on leveraging Salesforce's robust Customer Relationship Management (CRM) capabilities to streamline and enhance the laptop rental process. The primary objective is to deliver an efficient and user-friendly application that manages customer relationships, optimizes operations, and improves overall service efficiency. By utilizing Salesforce's features and functionalities, the project aims to enhance customer experience, enable effective communication via email with potential customers, and support long-term operational goals for the laptop rental business.

2. Objectives

Business Goals

- Improve customer satisfaction by providing seamless rental and return processes.
- Streamline operations to reduce manual tasks and errors.
- Increase sales through better customer engagement and targeted communication.
- Enhance data security and reliability with Salesforce's cloud-based platform.

Specific Outcomes

- Automated processes for managing customer bookings, billing, and inventory.
- Customizable dashboards and reports for real-time performance tracking.
- Integrated email communication system for engaging potential and existing customers.
- Implementation of validation rules to ensure data accuracy.

3. Salesforce Key Features and Concepts Utilized

The project incorporates several Salesforce features and concepts, including:

1. Objects and Fields:

- **Standard Objects:** Accounts, Contacts, Opportunities.

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- **Custom Objects:** Total Laptops, Consumer, Laptop Booking, Billing Process.
- **Custom Fields:** Fields specific to tracking rental durations, customer preferences, billing details, etc.
- 2. **Custom Tabs and Lightning Apps:**
 - Created custom tabs for each object to streamline navigation and usability.
 - Developed a Lightning app for a more interactive user experience.
- 3. **Validation Rules:**
 - Ensured data consistency and prevented invalid data entries.
- 4. **Profiles, Roles, and Hierarchy:**
 - Defined roles and permissions for users based on their responsibilities.
 - Established a clear hierarchy to manage data access and user interactions.
- 5. **Flows and Automation:**
 - Designed automated workflows for booking approvals, payment confirmations, and customer notifications.
- 6. **Reports and Dashboards:**
 - Built detailed reports for tracking bookings, revenue, and customer satisfaction metrics.
 - Designed dashboards for management to monitor key performance indicators (KPIs) in real-time.
- 7. **Apex Development:**
 - Developed Apex classes and triggers for advanced customizations and functionalities.

4. Detailed Steps to Solution Design

1. Creating Custom Objects

Go to the **Object Manager** in Setup to create new custom objects:

- **Total Laptop:** Used to store details about laptops available for rent.
- **Consumer:** Designed to manage customer information and interactions.
- **Laptop Booking:** Tracks rental transactions and booking details.
- **Billing Process:** Handles all billing information related to laptop rentals.

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SETUP > OBJECT MANAGER

Total Laptops

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

Details

Description

API Name
Total Laptops__c

Custom
✓

Singular Label
Total Laptops

Plural Label
Total Laptops

Enable Reports
✓

Track Activities

Track Field History
✓

Deployment Status
Deployed

Help Settings
Standard salesforce.com Help Window

Edit Delete

SETUP > OBJECT MANAGER

Laptop Bookings

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

Details

Description

API Name
Laptop_Bookings__c

Custom
✓

Singular Label
Laptop Bookings

Plural Label
Laptop Bookings

Enable Reports
✓

Track Activities

Track Field History
✓

Deployment Status
Deployed

Help Settings
Standard salesforce.com Help Window

Edit Delete

SETUP > OBJECT MANAGER

Billing Process

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

Restriction Rules

Details

Description

API Name
Billing_Process__c

Custom
✓

Singular Label
Billing Process

Plural Label
Billing Process

Enable Reports
✓

Track Activities

Track Field History
✓

Deployment Status
Deployed

Help Settings
Standard salesforce.com Help Window

Edit Delete

A CRM APPLICATION FOR LAPTOP RENTALS

SETUP > OBJECT MANAGER
consumer

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

Details

Edit
Delete

Description

API Name
consumer__c

Custom
✓

Singular Label
consumer

Plural Label
consumer

Enable Reports
✓

Track Activities

Track Field History
✓

Deployment Status
Deployed

Help Settings
Standard salesforce.com Help Window

2. Creating Tabs

- In **Setup**, navigate to **Tabs** and click "**New**" to create custom tabs for your objects.
- Add tabs for the following objects: **Total Laptop**, **Customer**, **Laptop Booking**, and **Billing Process** to enable easy access and navigation.
- Choose **tab styles** and **labels** that are intuitive and align with user needs for a seamless experience.

SETUP
Tabs

Custom Tabs [Help for this Page](#)

You can create new custom tabs to extend Salesforce functionality or to build new application functionality.

Custom Object tabs look and behave like the standard tabs provided with Salesforce. Web tabs allow you to embed external web applications and content within the Salesforce window. Visualforce tabs allow you to embed Visualforce pages. Lightning Component tabs allow you to add Lightning components to the Salesforce Experience and the mobile app. Lightning Page tabs allow you to add Lightning Pages to Lightning Experience.

Custom Object Tabs [New](#) [What Is This?](#)

Action	Label	Tab Style	Description
Edit Del	Billing Process	Desk	
Edit Del	consumer	People	
Edit Del	Laptop Bookings	Computer	
Edit Del	Total Laptops	Laptop	

Web Tabs [New](#) [What Is This?](#)

No Web Tabs have been defined

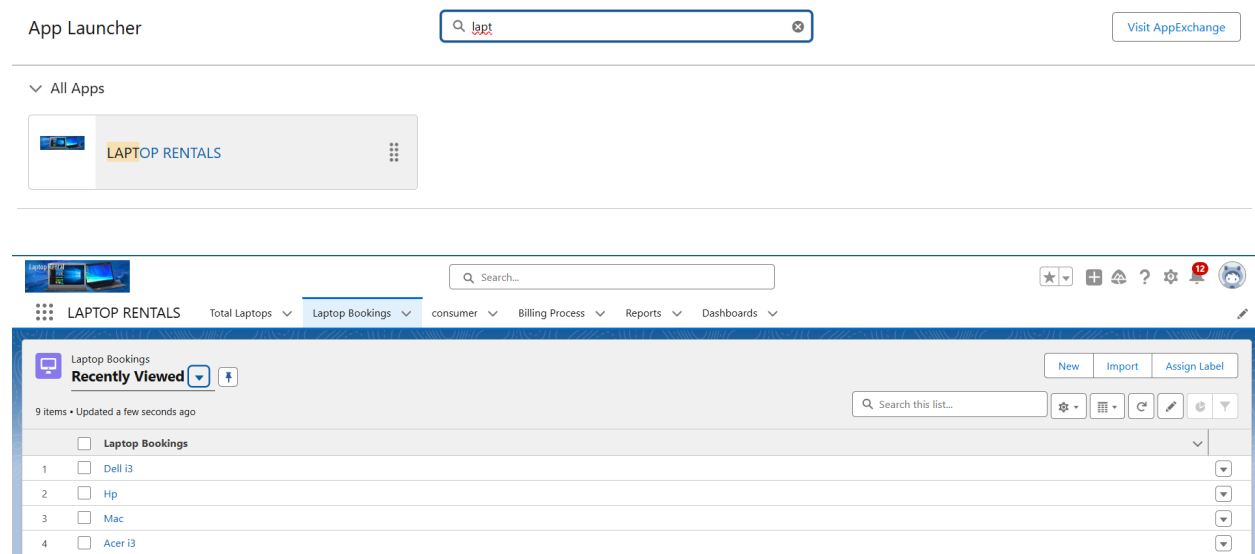
Visualforce Tabs [New](#) [What Is This?](#)

No Visualforce Tabs have been defined

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3. Lightning App Creation

- Go to **App Manager** in **Setup** and click **"New Lightning App"**.
- Enter the app name (e.g., **"Laptop Rentals"**) and configure app settings, such as navigation options.
- Add the relevant tabs: **Total Laptop**, **Customer**, **Laptop Booking**, and **Billing Process** to the app for easy access.
- Save the app configuration and ensure it is assigned to the appropriate **user profiles** for accessibility.



4. Creating Fields

- For each object (**Customer**, **Laptop Booking**, **Billing Process**), go to the **Object Manager** and access the **Fields & Relationships** section.
- Add the required fields:
 - **Customer Object:** Add fields like **Phone Number**, **Email**, or **Address**.
 - **Laptop Booking Object:** Add fields like **Rental Start Date**, **Rental End Date**, or **Booking Status**.

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- **Billing Process Object:** Include fields such as **Billing Amount**, **Payment Status**, or **Invoice Number**.

- Establish relationships between objects where necessary, such as linking **Laptop Booking** with **Total Laptop** using a **Lookup Relationship**.
- Document the field details, including their **data types** (e.g., Text, Date, Number) and **validation rules** (e.g., required fields, format constraints) to maintain clarity and consistency.

SETUP > OBJECT MANAGER

Total Laptops

Fields & Relationships				
6 Items, Sorted by Field Label				
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)		✓

SETUP > OBJECT MANAGER

Laptop Bookings

Fields & Relationships				
11 Items, Sorted by Field Label				
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)		

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SETUP > OBJECT MANAGER

consumer

Details

Fields & Relationships

8 Items, Sorted by Field Label

Q Quick Find New Deleted Fields Field Dependencies Set History Tracking

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

Billing Process

Details

Fields & Relationships

7 Items, Sorted by Field Label

Q Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Formula (Currency)		
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		

5. Validation Rule Creation

- In **Object Manager**, select the **Consumer** object and navigate to the **Validation Rules** section.
- Click **"New"** to create a validation rule that ensures users provide either a **Phone Number** or **Email** before saving records.
- Use the formula: `OR(ISBLANK(phone_number__c), ISBLANK(email__c))` for validation logic.
- Add an error message such as:
"Please fill the phone number and email id"

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consumer Validation Rule

[Back to consumer](#)

Validation Rule Detail			
Rule Name	Phonenumberoremailblankrule	Active	<input checked="" type="checkbox"/>
Error Condition Formula	OR(ISBLANK(Phone_number__c), ISBLANK(Email__c))		
Error Message	Please fill the phone number and email id	Error Location	Top of Page
Description	phone number and email number should not be blank		
Created By	Bulbul Raghuvanshi 06/12/2024, 4:44 pm	Modified By	Bulbul Raghuvanshi 06/12/2024, 4:44 pm

6. Profile Creation

- In **Setup**, navigate to **Profiles** and create new profiles, such as **Owner Profile** and **Agent Profile**, tailored to user roles.
- Define permissions for each profile:
 - **Object Access:** Specify which objects (e.g., **Customer**, **Laptop Booking**) each profile can view, edit, or delete.
 - **Field Visibility:** Control which fields are visible or editable for each profile based on their role.
 - **Record Types:** Restrict access to certain record types if applicable.
- Assign users to these profiles based on their job functions within the organization (e.g., Owners get full permissions, Agents have restricted access).
- Save the profile settings.

Users

Profiles

Didn't find what you're looking for? Try using Global Search.

SETUP

Profiles

Profiles

All Profiles

Edit | Delete | Create New View

New Profile

Action

Profile Name

User License

Custom

Edit | Del | ...

Agent

Salesforce Platform

☒

Edit | Clone

Analytics Cloud Integration User

Analytics Cloud Integration User

☐

Edit | Clone

Analytics Cloud Security User

Analytics Cloud Integration User

☐

Edit | Clone

Authenticated Website

Authenticated Website

☐

Edit | Clone

Authenticated Website

Authenticated Website

☐

Edit | Del | ...

B2B Reordering Portal Buyer Profile

External Apps Login

☒

Edit | Clone

Chatter External User

Chatter External

☐

Edit | Clone

Chatter Free User

Chatter Free

☐

Edit | Clone

Chatter Moderator User

Chatter Free

☐

Edit | Clone

Contract Manager

Salesforce

☐

Edit | Clone

Cross Org Data Proxy User

XOrg Proxy User

☐

Edit | Del | ...

Custom: Validation Profile

Custom: Validation Profile

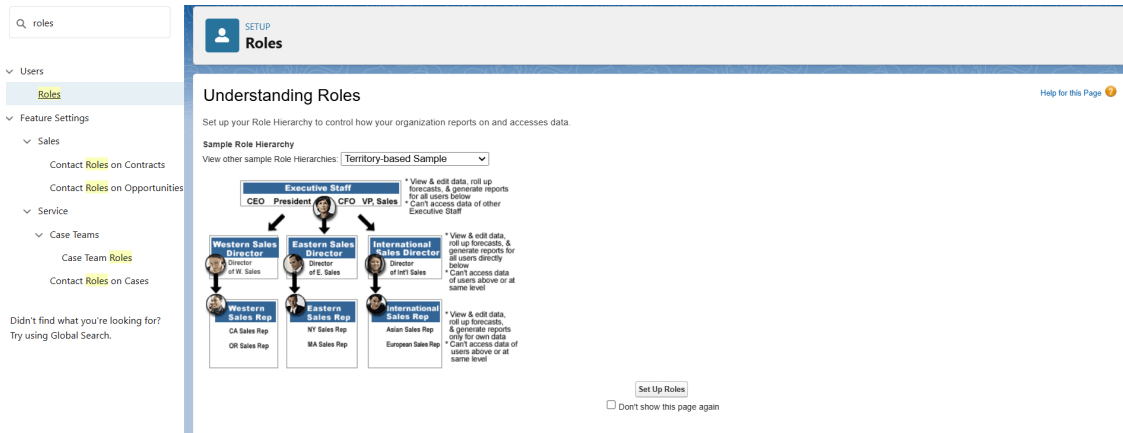
☒

8

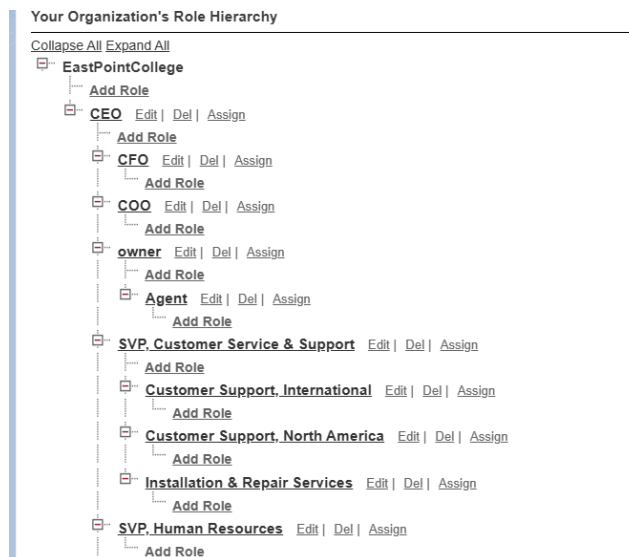
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7. Role Hierarchy Creation

- Navigate to Roles in Setup and click on “SetUp Roles”.
- Create an Owner role that defines the visibility access for users managing laptop rentals.
- Establish hierarchy levels as necessary (e.g., CEO > owner > Agent).
- Ensure that roles are assigned correctly so that data visibility aligns with organizational structure.



The screenshot shows the Salesforce Setup Roles page. On the left is a navigation menu with options like Users, Roles, Feature Settings, Sales, Service, and Case Teams. The main content area is titled "Understanding Roles" and includes a "Sample Role Hierarchy" diagram. The diagram illustrates a hierarchy starting with "Executive Staff" (CEO, President, CFO, VP, Sales) at the top, followed by "Sales Director" roles (Western, Eastern, International), and then "Sales Rep" roles (CA, NY, Asian, European). Each role has associated permissions listed next to it. At the bottom right, there is a "Set Up Roles" button and a checkbox for "Don't show this page again".




The screenshot displays the "Your Organization's Role Hierarchy" tree view. The hierarchy starts with "EastPointCollege" at the root. Below it are several roles listed with their respective permissions (Edit, Del, Assign). The roles include: CEO, CFO, COO, owner, Agent, SVP, Customer Service & Support, Customer Support, International, Customer Support, North America, Installation & Repair Services, and SVP, Human Resources. Each role has an "Add Role" link next to it, indicating that more roles can be added to the hierarchy.

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8. User Creation

- In **Setup**, navigate to **Users** and click on **"New User"** to create user accounts for your team members..
- Fill out user details such as name, email address,role assignment, and profile selection.
- Set **Usernames** and **Passwords** according to your organization's security standards.
- Save the user accounts and **notify** the users with their login credentials so they can access the system.



SETUP

Users

User

ram ram


[User Profile Help for this Page](#)

[Permission Set Assignments](#) | [Permission Set Assignments: Activation Required](#) | [Permission Set Group Assignments](#) | [Permission Set License Assignments](#) | [Personal Groups](#) | [Public Group Membership](#) | [Queue Membership](#) | [Team](#) | [Managers in the Role Hierarchy](#) | [OAuth Apps](#) | [Third-Party Account Links](#) | [Installed Mobile Apps](#) | [Authentication Settings for External Systems](#) | [Login History](#) | [User Provisioning Accounts](#)

User Detail

[Edit](#) [Sharing](#) [Reset Password](#) [Freeze](#) [View Summary](#)

Name	ram ram	Role	Agent
Alias	rram	User License	Salesforce Platform
Email	sweta050340.br@gmail.com Verify	Profile	Agent
Username	rram@123gmail.com	Active	<input checked="" type="checkbox"/>
Nickname	rram	Marketing User	<input type="checkbox"/>
Title		Offline User	<input type="checkbox"/>
Company		Knowledge User	<input type="checkbox"/>
Department		Flow User	<input type="checkbox"/>
Division		Service Cloud User	<input type="checkbox"/>
Address		Site.com Contributor User	<input type="checkbox"/>
Time Zone	(GMT+05:30) India Standard Time (Asia/Kolkata)	Site.com Publisher User	<input type="checkbox"/>
Locale	English (India)	WDC User	<input type="checkbox"/>
Language	English	Mobile Push Registrations	View
Delegated Approver		Data.com User Type	i
Manager		Accessibility Mode (Classic Only)	<input type="checkbox"/> i



SETUP

Users

User

vicky y

[User Profile Help for this Page](#)

[Permission Set Assignments](#) | [Permission Set Assignments: Activation Required](#) | [Permission Set Group Assignments](#) | [Permission Set License Assignments](#) | [Personal Groups](#) | [Public Group Membership](#) | [Queue Membership](#) | [Team](#) | [Managers in the Role Hierarchy](#) | [OAuth Apps](#) | [Third-Party Account Links](#) | [Installed Mobile Apps](#) | [Authentication Settings for External Systems](#) | [Login History](#) | [User Provisioning Accounts](#)

User Detail

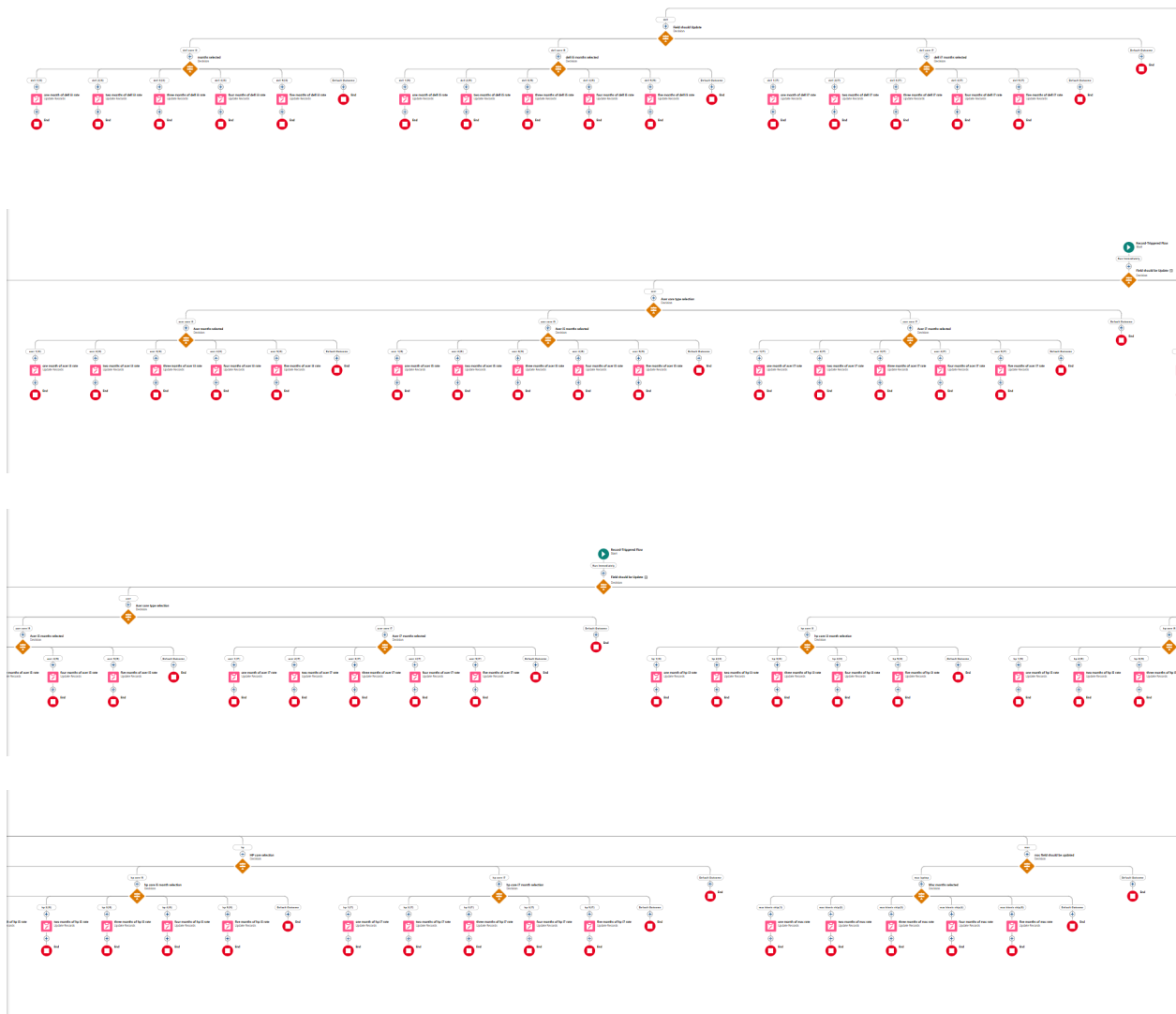
[Edit](#) [Sharing](#) [Reset Password](#) [Freeze](#) [View Summary](#)

Name	vicky y	Role	owner
Alias	vy	User License	Salesforce
Email	sweta050340.br@gmail.com Verify	Profile	owner
Username	vicky@123gmail.com	Active	<input checked="" type="checkbox"/>
Nickname	vicky	Marketing User	<input type="checkbox"/>
Title		Offline User	<input type="checkbox"/>
Company		Knowledge User	<input type="checkbox"/>
Department		Flow User	<input type="checkbox"/>
Division		Service Cloud User	<input type="checkbox"/>
Address	House No. - 28 Bengaluru 560049	Site.com Contributor User	<input type="checkbox"/>

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9. Flow Creation

- In **Setup**, navigate to **Flows** and click on **"New Flow"** to begin creating automated processes related to laptop rentals.
- Create specific flows for different laptop brands (e.g., **Dell, Acer, HP, Mac**) to automate tasks such as data entry or updates based on user selections.
- Define flow elements.
- Test each flow thoroughly to ensure the processes are functioning as expected before deployment. Ensure proper handling of edge cases and validate data accuracy.



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10. Report Creation

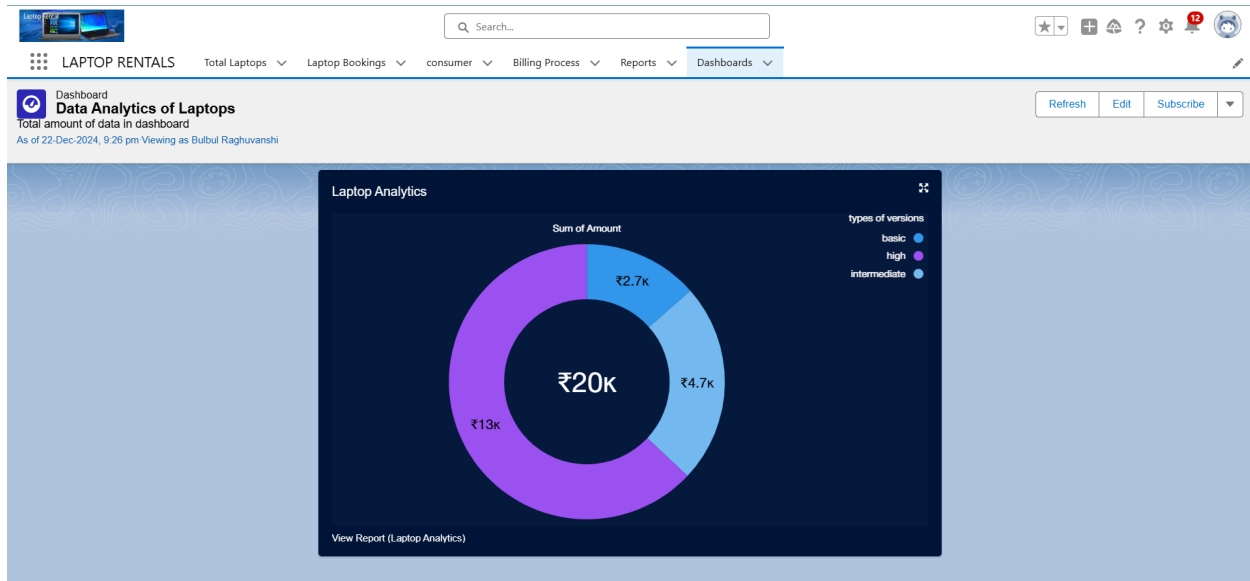
- Go to the **Reports** tab and click **"New Report"** to create reports based on the relevant objects (e.g., **Total Laptop, Customer, Laptop Booking, Billing Process**).
- Use **filters** and **groupings** to organize and summarize data effectively.
- Save the reports with **meaningful names** and **descriptions** to ensure they are easily identifiable by users.
- **Share** the reports with stakeholders by configuring the appropriate **sharing settings**, such as defining who can view, edit, or manage the reports based on their role.

Laptop Rentals

11. Dashboard Creation

- Navigate to the **Dashboards** tab in **Salesforce** and click **"New Dashboard"** to create a visual representation of key metrics.
- Add components like **charts** sourced from the reports you've previously created.
- Organize the components logically within the dashboard layout to ensure clarity and easy interpretation of the data.
- Save the dashboard in appropriate **folders** that are accessible by relevant user profiles, ensuring that it can be used for ongoing monitoring of performance metrics.

A CRM APPLICATION FOR LAPTOP RENTALS



5. Testing and Validation

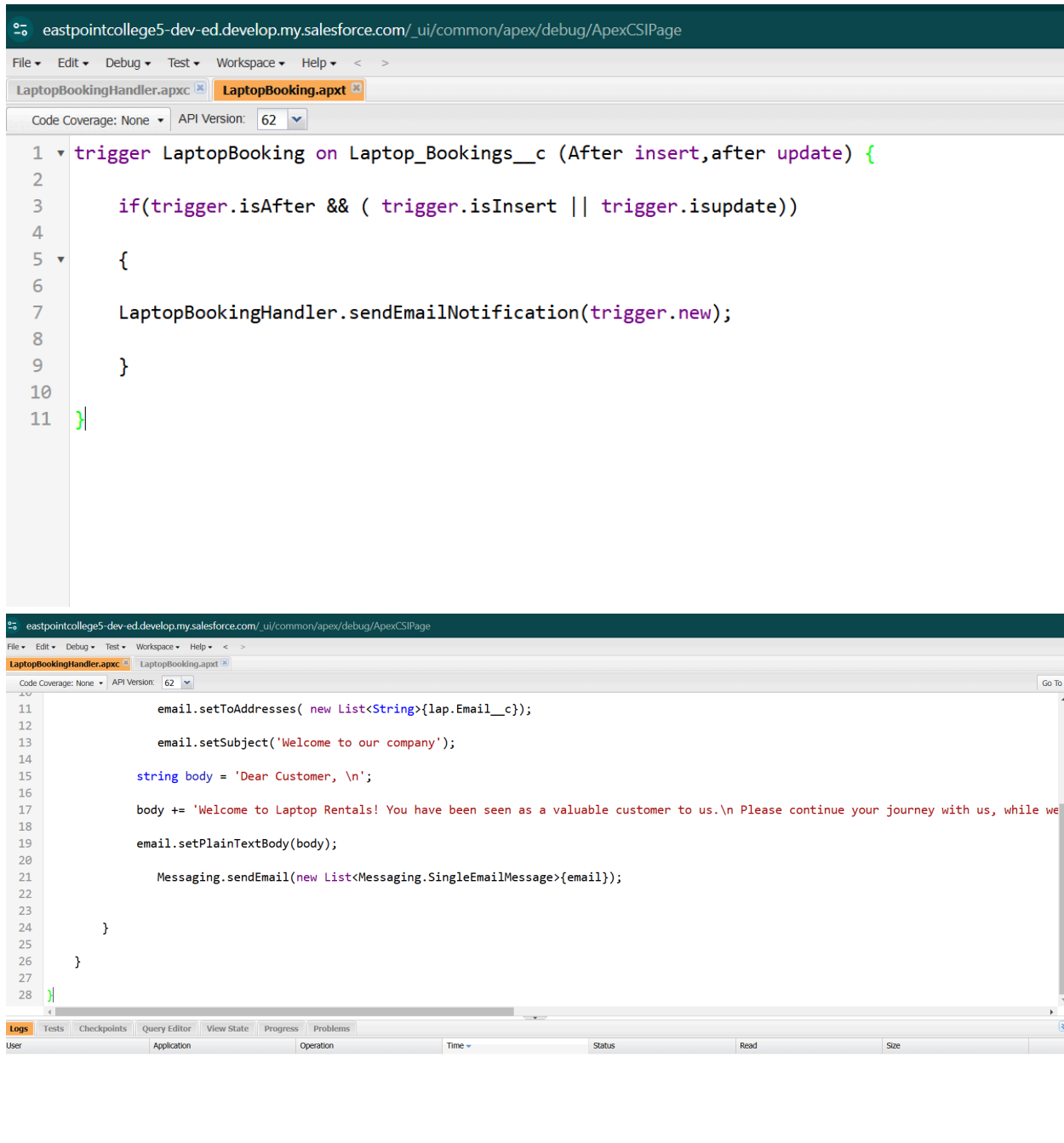
- **Unit Testing:**
 - Conducted thorough testing of Apex classes and triggers to ensure functional correctness.
- **User Interface Testing:**
 - Validated the user experience by testing all Lightning components and custom tabs.
 - Ensured cross-browser compatibility and responsiveness.

Apex Class and Trigger Creation

- In Setup, navigate to Apex Classes and create an Apex trigger that responds to DML events on relevant objects (e.g., Laptop Booking).
- Write trigger logic that handles actions such as sending notifications.

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- Implement handler classes if necessary for better organization of code logic.
- Test triggers using unit tests within Salesforce's testing framework.



The screenshot displays the Salesforce IDE interface. The top pane shows the `LaptopBooking.apxt` file with the following Apex trigger code:

```

1 trigger LaptopBooking on Laptop_Bookings__c (After insert,after update) {
2
3     if(trigger.isAfter && ( trigger.isInsert || trigger.isupdate))
4
5     {
6
7         LaptopBookingHandler.sendEmailNotification(trigger.new);
8
9     }
10
11 }

```

The bottom pane shows the `LaptopBookingHandler.apxc` file with the following Apex class code:

```

11     email.setToAddresses( new List<String>{lap.Email__c});
12
13     email.setSubject('Welcome to our company');
14
15     string body = 'Dear Customer, \n';
16
17     body += 'Welcome to Laptop Rentals! You have been seen as a valuable customer to us.\n Please continue your journey with us, while we
18
19     email.setPlainTextBody(body);
20
21     Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{email});
22
23
24 }
25
26 }
27
28 }

```

The bottom status bar shows a table with columns: User, Application, Operation, Time, Status, Read, and Size.

6. Key Scenarios Addressed by Salesforce in the Implementation Project

1. **Customer Management:**
 - Centralized database for storing and managing customer information.
 - Real-time tracking of customer interactions and communication.
2. **Inventory Tracking:**
 - Automated updates to inventory levels based on bookings and returns.
 - Visibility into available laptops for rental at any given time.
3. **Booking and Billing:**
 - Streamlined booking process with automated billing generation.
 - Validation rules to prevent double bookings or incomplete records.
4. **Email Communication:**
 - Automated email notifications for booking confirmations and reminders.
 - Targeted email campaigns for potential customers identified through Salesforce.
5. **Performance Monitoring:**
 - Dashboards and reports for monitoring operational efficiency and customer satisfaction.
 - Real-time insights into revenue trends and booking patterns.

7. Conclusion

As a part of this virtual internship program, I successfully developed a comprehensive CRM system tailored to the laptop rental business. Streamlined operations through automation and validation rules. Enhanced customer engagement with integrated email communication and user-friendly interfaces. Provided actionable insights through customized reports and dashboards. Ensured data security and reliability by leveraging Salesforce's robust cloud platform.

By combining Salesforce's advanced features with tailored business logic, this project has laid a strong foundation for scaling the laptop rental business while delivering exceptional customer experiences.