

Project Documentation: CRM Application for Laptop Rentals

Category: Salesforce

Skills Required: Salesforce Developer

Project Overview

The CRM Application for Laptop Rentals is designed to streamline the process of renting laptops to customers. The application utilises Salesforce's robust CRM capabilities to enhance customer interactions, optimize store operations, and increase overall efficiency. A key feature of the application is the integration of email communication, enabling effective engagement with potential and existing customers.

Features and Functionalities

1. **Total Laptops Management:** Tracks and manages the inventory of laptops available for rent.
2. **Consumer Management:** Manages customer details and their interactions with the rental service.
3. **Laptop Booking Process:** Facilitates the booking of laptops and manages the entire booking lifecycle.
4. **Billing Process:** Automates billing and payment processes for rentals.
5. **User Roles and Profiles:** Defines different levels of access and roles, such as Owner and Agent, within the application.
6. **Validation Rules:** Ensures the accuracy and completeness of critical data fields such as phone number and email.
7. **Automation via Flows and Apex:** Automates key processes like laptop distribution using Salesforce Flows and Apex triggers.
8. **Reports and Dashboards:** Provides actionable insights through reports and visual data dashboards.

Detailed Setup Instructions

1. Creating Custom Objects

1. Navigate to Setup:

- Go to the Setup page in Salesforce and click on Object Manager.

2. Create Custom Object: Total Laptops

- Click on **Create > Custom Object**.
- Fill in the following details:
 - **Label Name:** Total Laptops
 - **Plural Label Name:** Total Laptops
 - **Record Name Label:** Total Laptops
 - **Data Type:** Text
- Enable the following options:
 - Allow Reports
 - Allow Search
 - Track Field History
- Click **Save**.

3. Repeat the process for the following custom objects:

- Consumer
- Laptop Booking
- Billing Process

Total Laptops Object:

The screenshot shows the Salesforce Object Manager interface for the 'Total Laptops' object. The breadcrumb trail at the top reads 'Setup > OBJECT MANAGER'. The page title is 'Total Laptops'. On the left, a sidebar lists various configuration options: Details (selected), 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, Scoping Rules, Object Access, and Triggers. The main content area is titled 'Details' and contains several sections. The 'Description' section is empty. The 'API Name' is 'Total_Laptops__c'. The 'Custom' checkbox is checked. The 'Singular Label' is 'Total Laptops', the 'Plural Label' is 'Total Laptops', and the 'Record Name Label' is 'Total Laptops'. The 'Enable Reports' checkbox is checked. The 'Track Activities' checkbox is checked. The 'Track Field History' checkbox is checked. The 'Deployment Status' is 'Deployed'. The 'Help Settings' section includes a link to 'Standard salesforce.com Help Window'. At the top right of the details section, there are 'Edit' and 'Delete' buttons.

Consumer

Setup

Home

Object Manager

Q Search Setup

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

Restriction Rules

Scoping Rules

Object Access

Triggers

Details

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

EditDelete

Laptop booking Object:

Setup

Home

Object Manager

Q Search Setup

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

Restriction Rules

Scoping Rules

Object Access

Triggers

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

EditDelete

Billing process Object:

Setup

Home

Object Manager

Q Search Setup

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

Scoping Rules

Object Access

Triggers

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

EditDelete

2. Creating Tabs

1. Navigate to Setup:

- Type "Tabs" in the Quick Find bar and select Tabs.

2. Create a New Tab:

- Click on **New** under Custom Object Tabs.
- Select the custom object **Total Laptops** and choose a Tab Style.
- Keep default settings and uncheck **Include Tab in Custom App**.
- Click **Save**.

3. Repeat for the following objects:

- Consumer
- Laptop Booking
- Billing Process

Tabs:

The screenshot shows the Salesforce Setup interface for the 'Tabs' section. The left sidebar includes a search bar with 'Tabs' entered, and a navigation menu with 'User interface' expanded, showing 'Rename Tabs and Labels' and 'Tabs' (selected). The main content area is titled 'Custom Tabs' and includes a 'Help for this Page' link. Below the title, there is explanatory text about custom tabs. The interface is divided into four sections: 'Custom Object Tabs', 'Web Tabs', 'Visualforce Tabs', and 'Lightning Component Tabs'. Each section has a 'New' button and a 'What is This?' link. The 'Custom Object Tabs' section contains a table with four rows: 'Billing Process' (Diamond style), 'consumer' (Bottle style), 'Laptop Bookings' (Building style), and 'Total Laptops' (Alarm clock style). The 'Web Tabs' and 'Visualforce Tabs' sections show 'No Web Tabs have been defined' and 'No Visualforce Tabs have been defined' respectively. The 'Lightning Component Tabs' section contains a table with one row: 'Welcome' (Building block style).

Action	Label	Tab Style	Description
Edit Del	Billing Process	Diamond	
Edit Del	consumer	Bottle	
Edit Del	Laptop Bookings	Building	
Edit Del	Total Laptops	Alarm clock	

Action	Label	Tab Style	Description
Edit Del	Welcome	Building block	

3. Creating a Lightning App Page

1. Navigate to App Manager:

- Search for AppManager in the Quick Find bar.

2. Create a New Lightning App:

- Click `New LightningApp` and name it `LAPTOP RENTALS`.
- Add relevant Navigation Items such as Total Laptops,Consumer, Laptop Booking, and Billing Process.
- Add System Administrator to the User Profiles section.
- Click `Save & Finish`.

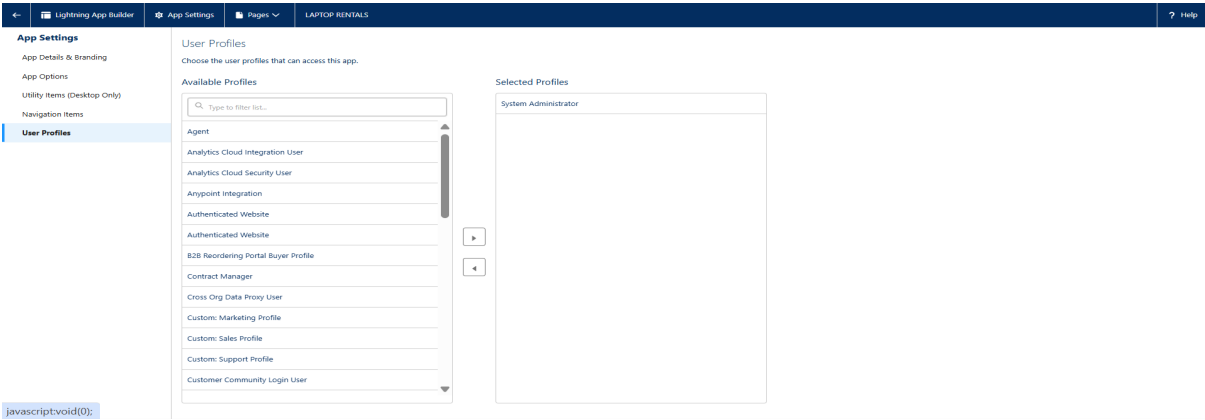
App Details:

The screenshot shows the 'App Details & Branding' configuration page in the Lightning App Builder. The left sidebar lists 'App Settings' with sub-items: 'App Details & Branding' (selected), 'App Options', 'Utility Items (Desktop Only)', 'Navigation Items', and 'User Profiles'. The main content area is titled 'App Details & Branding' and includes the instruction: 'Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.' The configuration is divided into two columns: 'App Details' and 'App Branding'. Under 'App Details', there are fields for 'App Name' (containing 'LAPTOP RENTALS'), 'Developer Name' (containing 'LAPTOP_RENTALS'), and 'Description' (with a placeholder 'Enter a description...'). Under 'App Branding', there is an 'Image' field with a laptop icon, a 'Primary Color Hex Value' dropdown set to '#0070C2', and a 'Clear' button. Below these is the 'Org Theme Options' section with a checkbox 'Use the app's image and color instead of the org's custom theme' which is currently unchecked. At the bottom, an 'App Launcher Preview' shows a button with the laptop icon and the text 'LAPTOP RENTALS'.

App navigation:

The screenshot shows the 'Navigation Items' configuration page in the Lightning App Builder. The left sidebar is the same as the previous screenshot, with 'Navigation Items' selected under 'App Settings'. The main content area is titled 'Navigation Items' and includes the instruction: 'Choose the items to include in the app, and arrange the order in which they appear. Users can personalize the navigation to add or move items, but users can't remove or rename the items that you add. Some navigation items are available only for phone or only for desktop. These items are dropped from the navigation bar when the app is viewed in a format that the item doesn't support.' The configuration is divided into two columns: 'Available Items' and 'Selected Items'. The 'Available Items' column has a search bar and a list of items including 'Accounts', 'Activation Targets', 'Activations', 'All Sites', 'Alternative Payment Methods', 'Analytics', 'App Launcher', 'Appointment Categories', 'Appointment Invitations', 'Approval Requests', 'Approval Submission Details', 'Approval Submissions', and 'Approval Work Items'. The 'Selected Items' column shows a list of items that have been added to the navigation: 'Total Laptops', 'consumer', 'Laptop Bookings', and 'Billing Process'. Arrows between the columns allow for moving items back and forth.

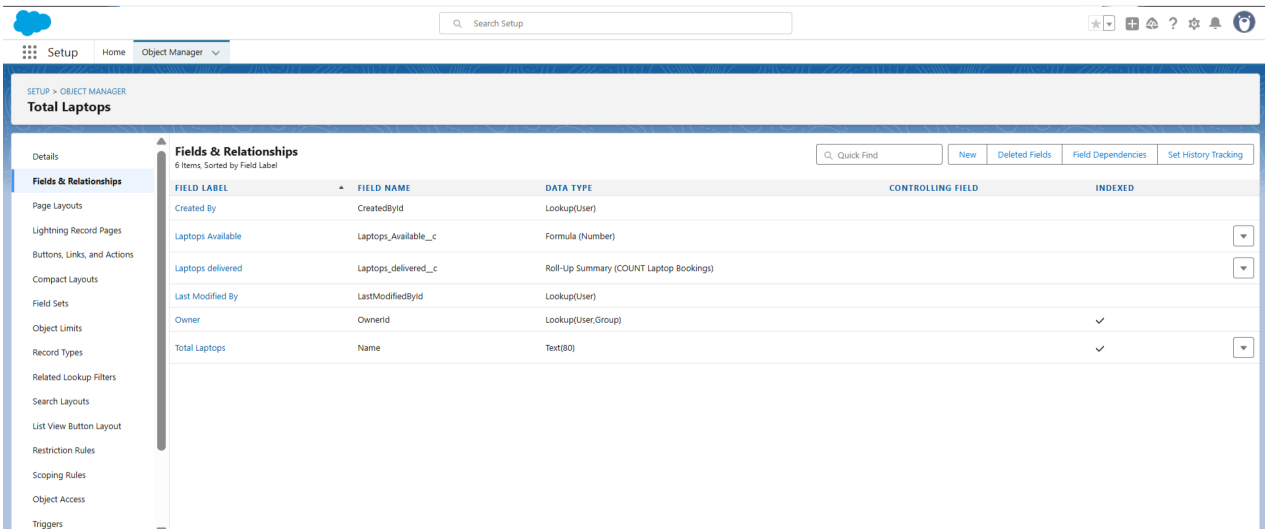
App user profiles:



4. Adding Fields to the Objects

Follow standard Salesforce procedures to add required fields to the following objects:

1. Total Laptops



2. Consumer

Setup

Home

Object Manager

Search Setup

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

Restriction Rules

Scoping Rules

Object Access

Triggers

Details

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

Edit

Delete

3. Laptop Bookings:

Setup

Home

Object Manager

Search Setup

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

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Search Layouts

List View Button Layout

Restriction Rules

Scoping Rules

Object Access

Triggers

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

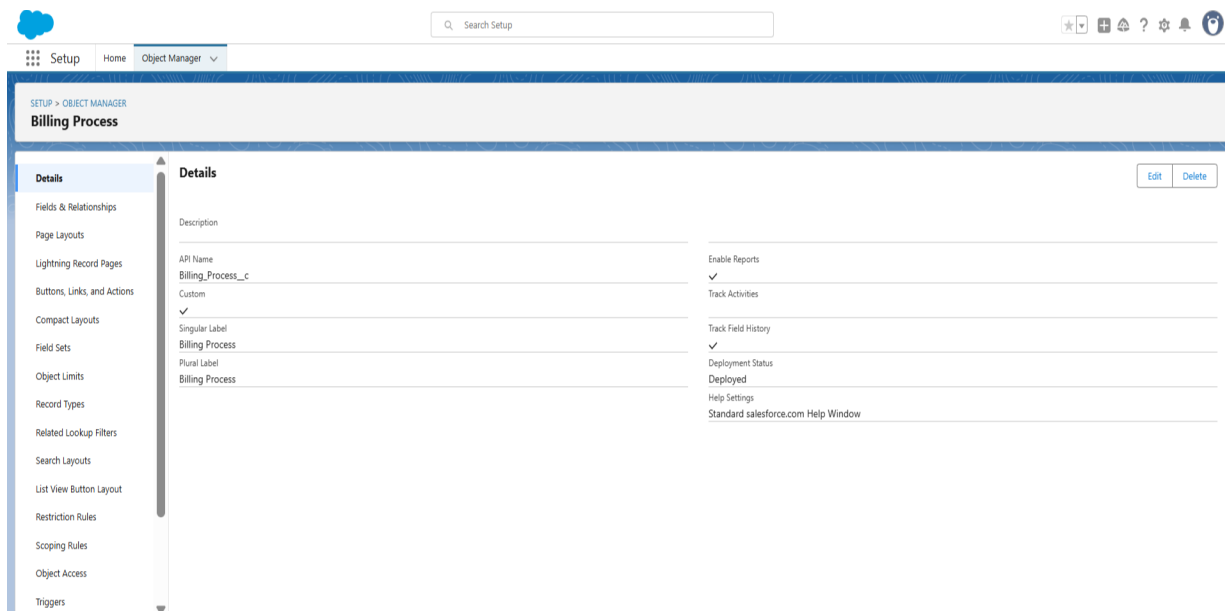
Help Settings

Standard salesforce.com Help Window

Edit

Delete

4. Billing Process



5. Creating a Validation Rule

1. Navigate to Object Manager:

- Go to the Setup page and select `Object Manager`.

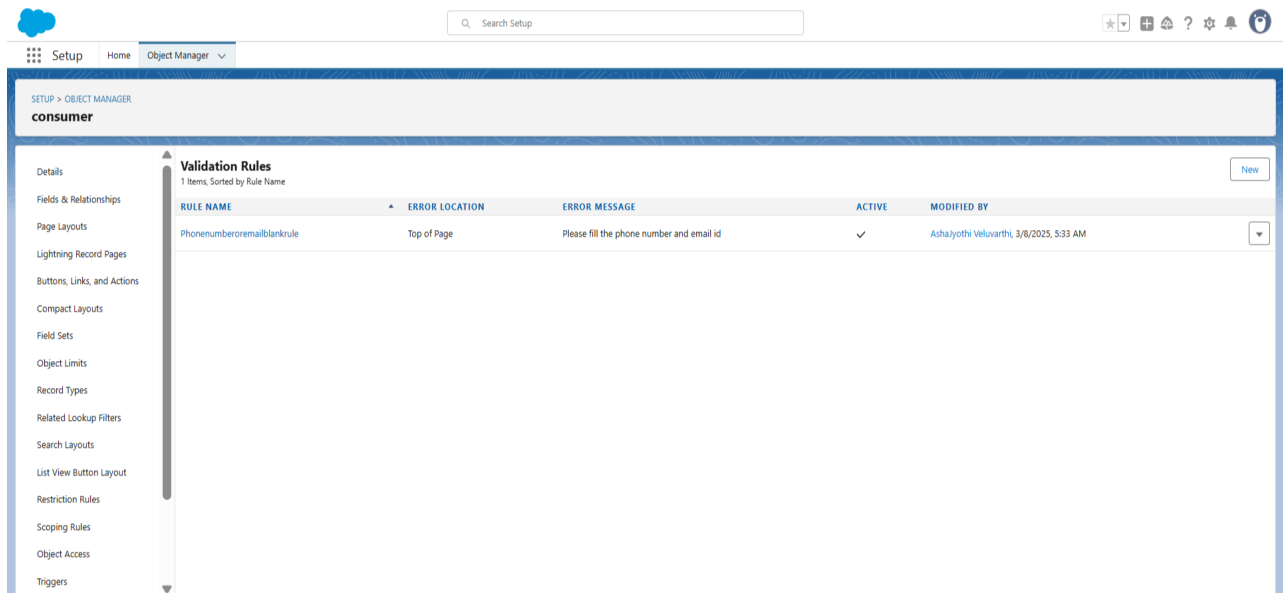
2. Edit Consumer Object:

- Choose the Consumer object and click `Edit`.

3. Create a Validation Rule:

- Click on `Validation Rules > New`.
- Enter the following details:
 - **Rule Name:** `Phonenumberoremailblankrule`
 - **Description:** Ensure that both phone number and email are not blank.
 - **Formula:** `OR (ISBLANK (phone_number_____ c) , ISBLANK (email c))`
- Click `Save`.

Rule:



6. Creating Users

Follow these steps to create users in Salesforce for the Laptop Rentals CRM:

1. Navigate to Users:

- Go to Setup in Salesforce.

2. Create New User (Owner):

- Click on **New User**.
- Fill in the following details:

First Name: Vicky

- **Last Name:** Y
- **Alias:** [Alias Name]
- **Email:** [Your Personal Email]
- **Username:** [text@text.text](#)
- **Nickname:** [Nickname]
- **Role:** Owner
- **User License:** Salesforce
- **Profiles:** Owner
- Click **Save**.

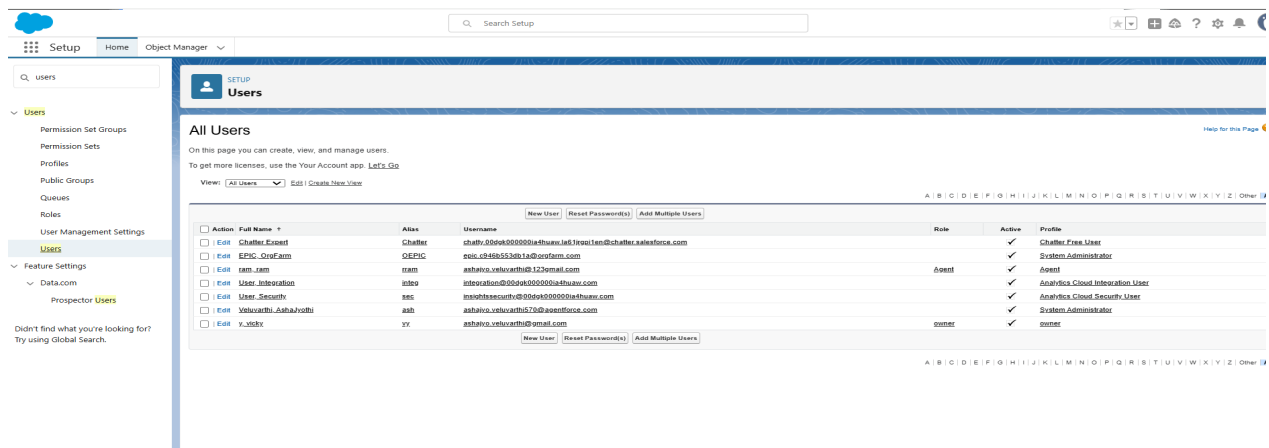
3. Create Another User (Agent):

- Click on **New User** again.
- Fill in the following details:
 - **First Name:** Ram

- **Last Name:** Ram
- **Alias:** [Alias Name]
- **Email:** [Your Personal Email]
- **Username:** [text@text.text](#)
- **Nickname:** [Nickname]
- **Role:** Agent
- **User License:** Salesforce Platform
- **Profiles:** Standard Platform User

- Click **Save**.

Users:



7. Creating a Flow for Laptop Distribution

To automate the laptop distribution process, follow these steps to create a Salesforce Flow that assigns laptops to customers based on availability and booking details.

Steps to Create a Salesforce Flow for Laptop Distribution:

1. Navigate to Setup:

- In Salesforce, go to **Setup** and type **Flows** in the Quick Find bar.
- Select **Flows** from the drop-down menu.

2. Create a New Flow:

- Click on **New Flow** and choose **Record-Triggered Flow** as the type of flow.
- This type of flow will trigger automatically when a laptop booking is created or updated.

3. Select the Trigger Object:

- In the next step, choose the **Laptop Booking** object as the trigger for the flow.
- Set the trigger to fire when a record is **created or updated**.

4. Define Criteria:

- Add a condition to check the availability of laptops in the **Total Laptops** object.
- The flow should only proceed if there are available laptops that match the booking details, such as laptop type and configuration.

5. Assignment Element:

- Add an **Assignment** element to assign laptops to customers.
- The flow should retrieve available laptops from the **Total Laptops object** and assign the first available one to the booking.

6. Update Records:

- Add an **Update Records element** to update the booking with the assignedlaptopassigned laptop
- ate the **Laptop Booking record** with the assigned laptop'sID, status (Booked), and any additional details.

Send Confirmation:

- Add an email notification to confirm the booking and notify the customer. Use **Email Alert** or **Apex Action** to send emails.

Test the Flow:

- Save and activate the flow.
- Run tests to ensure that it correctly assigns laptops based on availability and updates the booking records.



8. Developing Apex Code

To automate the business processes involved in laptop bookings, such as updating laptop availability and sending notifications, you need to create both an Apex class and an Apex trigger.

Apex Class:LaptopBookingHandler

The **LaptopBookingHandler** class contains the business logic for handling the key processes,

including sending email notifications when a laptop is booked.

```
public class LaptopBookingHandler {
    public static void sendEmailNotification (List<Laptop_Bookings__c> lapList){
        for(Laptop_Bookings__c lap: lapList){
            Messaging.SingleEmailMessage email = new
            Messaging.SingleEmailMessage();
            email.setToAddresses(new
            List<String>{lap.Email__c}); email.setSubject('Welcome to our company');
            string body = 'Dear' + lap.Name + ',\n';
            body += 'Welcome to Laptop Rentals!You have been seen as a valuable
customer.\n';
            body += 'Laptop Amount= ' + lap.Amount__c + '\n';
            body += 'Core type = ' + lap.core_type__c + '\n';
            email.setPlainTextBody(body);
            Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{email});
        }
    }
}
```

Apex Trigger: LaptopBooking

The trigger you have provided is designed to send email notifications after a laptop booking record is inserted or updated. Below is a refined version with some improvements in readability and clarity.

```
trigger LaptopBooking on Laptop_Bookings__c (after insert,after update) {

    // Check if the trigger is after insert or after update
    if (trigger.isAfter && (trigger.isInsert || trigger.isUpdate)) {

        // Call the method to send email notifications from the LaptopBookingHandler
        class
        LaptopBookingHandler.sendEmailNotification(trigger.new);
    }
}
```

9. Generating Reports and Dashboards

In Salesforce, **Reports** and **Dashboards** are powerful tools that allow you to visualise and analyse key metrics. Here's how you can generate reports and create a dashboard for the Laptop Rentals CRM application.

Reports:

Lightning Usage App

Lightning Usage

Laptop Analytics

Agentforce

Report: Total Laptops with Laptop Bookings and consumer

Laptop Analytics

Enable Field Editing

Add Chart

Edit

Total Records12

Total Amount\$56,800

types of versions	Amount	Total Laptops: Total Laptops	Laptop Bookings: Laptop Bookings	Consumer: consumer_name
high (12)	\$10,000	1	Dell i7	mahi
	\$4,000	1	acer core i3	mahi
	\$2,000	1	Dell i3	shruthi
	\$1,700	1	Mac bionic chip(1)	nani
	\$1,700	2	Mac bionic chip(1)	naveen
	\$4,000	1	Hp core i5	jiyothi
	\$10,000	1	Hp core i7	shruthi
	\$5,000	1	acer core i5	nani
	\$3,400	1	Mac bionic chip(2)	shruthi
	\$8,000	1	acer core i7	naveen
	\$5,000	1	Hp core i3	jiyothi
	\$2,000	1	Dell core i5	nani
Subtotal	\$56,800			
Total (12)	\$56,800			

Row Counts

Detail Rows

Subtotals

Grand Total

Dashboard:

